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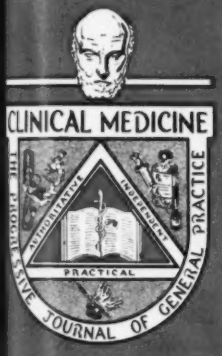

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MAY
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VOLUME 49 — NUMBER 5

Staying Power

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CLAUDE CONNOR PIERCE, M.D.

Volume 49 ★ Number 5
MAY, 1942

Clinical Medicine

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★ Editorial ★

Dr. Claude C. Pierce

Medical Director, Planned Parenthood Federation

SIGNIFICANT of the rapidly increasing degree to which planned parenthood is coming to be recognized as a definite factor in any well-rounded public health program, is the recent appointment of an outstanding authority on public health problems—Dr. Claude C. Pierce—as National Medical Director of the Planned Parenthood Federation of America, Inc.

Claude Connor Pierce was born at Chattanooga, Tenn., June 15, 1878; received his Doctorate in Medicine from Chattanooga Medical College in 1898; entered the United States Public Health Service, as an Assistant Surgeon, in 1900; and received his regular promotions, up to Senior Surgeon (by Act of Congress) in 1915.

During this period, Dr. Pierce served in the marine hospital quarantine and immigration service; as chief sanitary officer of the Panama Canal Zone; superintendent of the Colon Hospital; quarantine officer, Republic of Panama; executive officer under Colonel Gorgas; chief sanitary officer, Panama-Pacific Exposition, San Francisco (in 1915); director of plague suppressive measures in California and of prevention of typhus on the Mexican Border (1916); and tours of duty at the United States Hygiene Laboratory. During World War I, he was in charge of extra-cantonment health and sanitation, and of officer training, at Little Rock, Ark.

When the Division of Venereal Diseases, U.S.P.H.S., was established by Congress, in 1918, Dr. Pierce was placed in charge of it, as Assistant Surgeon General, and organized and directed this important agency for four years (1918 to 1922).

When the newly-created position of District Director was established in 1922, Dr. Pierce was released from his administrative duties in Washinton and assigned to Chicago, in charge of District No. 3; but the organization work for this area was scarcely completed before it became necessary for him to proceed to Mexico and to Cuba, to study the seaports and confer with government authorities regarding sanitary conditions and modification of quarantine restrictions. Subsequently, an outbreak of malignant smallpox at Windsor, Ontario, took him to Canada for the difficult task of international quarantine service and vaccination of several hundred thousand intercity workers and more than 600,000 residents of Detroit.

In 1926, Dr. Pierce was again in Washington, serving as Assistant Surgeon General in charge of personnel and accounts. Then, a new Act having created the position of Medical Director, he was advanced to that post in July, 1931, but continued his direction of the Division of Personnel and Accounts.

Conditions abroad next claimed Dr. Pierce for supervision of medical inspection of aliens in Europe and Great Britain. During this service, for three years (1934-'37), opportunity was afforded the health authorities of all the countries of Europe to benefit by his wide experience with all their major problems of disease prevention and administration.

In August, 1937, Dr. Pierce was relieved of duty in Europe and assigned as Director of Public Health District No. 1, with Headquarters in New York City. In that post he coordinated the efforts of public health in the New England hurricane, the greater Metropolitan-Interstate demonstration project for control of venereal disease, in the many details of liaison activity between the Federal Public Health Service and the state authorities in this area, and the complicated military-industrial-civilian relationships of this second World War. For his brilliant work, he has been awarded an honorary life membership in the American Social Hygiene Association. He is also an active member of the Association of Military Surgeons and a fellow of the A.M.A.

The Planned Parenthood Federation is to be congratulated upon securing the services of this exceptionally able, experienced, and versatile public health executive and administrator, whom Surgeon General Thomas Parran, U.S.P.H.S., has called an "elder statesman," and it seems certain that our country's war effort, and the people in general, will benefit greatly by his activities in his new post of duty and responsibility.

✦

All that you should ask of life, in connection with your work, is that you may be permitted to go on creating more work, doing more work.—C. JINARAJADASA.

✦

Curing Cancer

MORE than ten years ago the American College of Surgeons started to collect full and detailed reports of patients with cancer who had remained well for five years after treatment ("five-year cures"), and so were presumably free from danger of recurrence. The reporting of these cases has never been compulsory, and practically all of the recorders were members of the College, so the records are almost entirely those of *surgical* cures.

On this basis, it seems reasonable to assume that the number of five-year cancer cures in the United States, *not* recorded in the archives of the College, may be fully as great as those that are so recorded.

The first report, published in 1932, included 8,840 of these five-year cures; in 1940, this number had increased to 36,087; and in 1941, 2,731 more cases were added, making a total of 38,818. This certainly does not look as if cancer is the "incurable" disease that many laymen (and even a few physicians) still believe it to be.

The increase in the number of cured cases was reasonably even for all the various organs and tissues affected (running mostly from 5 to 10 percent), except in the case of tumors of bone, where it was more than *1000 percent* (from 35 cases, in 1940, to *361* in 1941). The reasons for this astounding increase in the number of cured cases of bone neoplasms is an interesting field for cogitation.

The number of deaths from cancer continues to increase, because more people are living into the "cancer age" and the general public still looks upon the disease as incurable and, therefore, does not make sufficient efforts to have these patients treated *early*.

The figures here quoted should be publicized as widely as possible, so that people may know that the medical profession now has something *definite* and *hopeful* to offer the cancer patient, and will be inspired to go diligently in search of that help.

✦

Modern science does not realize that the attitude of the investigator profoundly influences the result of his investigation.—MANLY P. HALL.

✦

Use the Specialists

SOME of our readers may have felt that the article on peritoneoscopy, by Dr. Lee, which appeared in our April issue, was a bit technical for a journal directed especially to fill the needs of the family doctor; but the publication of that article, and of some others of approximately the same caliber, had a definite purpose.

Most general clinicians are eager to learn all they can about new mechanical and pharmacologic tools that will help them in their practice, but too few have learned to make really intelligent use of those animate tools, the specialists.

The family doctor sees most sick people first, and if he has kept his mind and his skills in good working order, by reading one or more good medical journals regularly and attending professional meetings and graduate courses, he can take care of 90 percent of them adequately. In the other 10 percent he will need help, and here it becomes vitally necessary that he should know just what each of the various types of specialists can be expected to do that will be most effective in getting his patients well.

Practically every doctor in the country now knows where to find the nearest capable roentgenologist and x-ray machine, and he uses *both* of these important tools to help him make diagnoses and cure patients; but how many know, with equal certainty, just where to find, on the shortest possible notice, a man who has a peritoneoscope, a gastroscope, a bronchoscope, a cystoscope, or an electrocardiograph, along with the skill and training to use such instruments with the knowledge

and experience that, alone, make their use helpful in diagnosis and treatment? How many know, *clearly,* just what information the use of such instruments should furnish them, or what help they will give his patients who are sent for treatment?

Now, more than ever before in this generation, it is increasingly important for all family doctors to know how and when to use the services of a specialist; just what specialist (in general and in personal particular) will give him the most assistance; and how to judge whether or not a particular specialist is giving him and his patients all the information and help that he may reasonably be expected to give.

So read the articles about certain highly specialized procedures *carefully,* not because you expect to make personal use of them immediately, but in order that you may have a standard by which to judge the efficiency of the specialists you may find it expedient to call upon to assist you in the care of those rather rare patients whose treatment is beyond your present skill and equipment.

✦

The physician must not only be prepared to do what is right himself, but also to make the patient, the attendants, and externals cooperate.—HIPPOCRATES.

✦

NEXT MONTH

Dr. Joseph E. G. Waddington, of Detroit, Mich., will discuss (with a number of illustrations) his personal experiences with various physical therapy technics.

Dr. Driver Rowland, of Hot Springs, Ark., will present, in tabular form, the differential diagnosis of cardiac arrhythmias.

COMING SOON

"Hydrogel Therapy in Delayed Allergic Reactions," by Albert E. Man, M.D., New York, N. Y.

"The Symptom-producing 'Nervous Colon'," by Beaumont S. Cornell, M.D., F.A.C.P., Fort Wayne, Ind.

Pleurodynia

WITH the approach of the warm months we enter the season when *pleurodynia* (sometimes called "devil's grip") is most common, and since this disease is not uncommon, is rather difficult to diagnose except when it occurs as an epidemic, so that physicians are *thinking of it,* and may easily be mistaken for an acute surgical condition, a reminder may be timely.

More than 50 percent of cases of this malady occur in children less than 15 years old, and 80 percent in those under 30 years. It strikes *suddenly,* with severe (sometimes agonizing) *pain* in the *epigastrium* and along the attachment of the diaphragm, made worse by exercise and by coughing, sneezing, or even breathing, so that the patient's respirations are apt to be slow and shallow, and he tends to maintain a fixed position, with his hands pressing upon the site of the pain.

Fronto-occipital *headache* is almost always present, and pain in the back and legs rather frequent. *Chilliness,* or even definite chills, often occur (the patient cannot keep warm in bed). *Nausea* and *vomiting* are common early symptoms in *children* (but not in adults), and there may be severe diarrhea with distention. Relapses are common.

With the onset of the pain, the *temperature rises rapidly,* sometimes to 104° or 105°F., and the pulse rate to from 90 to 100; but these fall with equal rapidity within from 24 to 48 hours, as the pain subsides. The *leukocyte count* is generally within normal limits, but *may* vary between 3,000 and 21,000, with a tendency to be low. Over the painful areas there is *cutaneous hyperesthesia* and often moderate muscle rigidity.

Differential diagnosis must consider *influenza, dengue,* and an *acute surgical emergency;* but the combination of *acute diaphragmatic* pain, *fever,* and *headache* is highly suggestive of pleurodynia.

In acute *appendicitis* and similar conditions, the tenderness is *deep,* rather than superficial, and *leukocytosis* is almost invariably present. *Influenza* occurs in the *cold months,* and the pain is decidedly different. In *dengue* the pain is chiefly in the back and joints, and there is *glandular enlargement* and a *rash.*

Pleurodynia is probably a virus disease (no organism has been isolated); is *highly contagious* (the patient should be isolated for four days after his temperature returns to normal), with an incubation period of from two to four days; and is apparently self-limited. *Recovery* is usually prompt and complete (though there may be complications and relapses), and there is practically no mortality.

Treatment, at present, is purely symptomatic. *Absolute rest in bed* should be enforced throughout; *strapping* of the lower chest gives considerable relief; the local application of *heat* is helpful, but counterirritants are *contraindicated;* the pain should be relieved by the liberal use of *analgesics* (acetosal, opiates, etc.).

★ *Leading* *Articles* ★

Modern Management of Arthritis

By

THEODORE S. GOLDBERG, M.D., Kansas City, Mo.
Founder, Arthritis Clinic, Alfred Benjamin Dispensary

For those general clinicians who have difficulty in planning the management of cases of chronic arthritis, Dr. Goldberg has set forth the general principles, based upon the most modern conceptions, which should guide them.

DUE to the recent flood of literature on arthritis, which has engulfed the medical profession, it is of prime importance that the merits of the various forms of therapy be firmly fixed in the mind of the physician. The general practitioner desires factual evidence concerning the merits of bee venom, vitamin therapy, hydrotherapy, massage, physical therapy, etc., in the treatment of arthritic diseases.

Should the tonsils be removed in all cases of infectious arthritis? Is an exacerbation of the arthritis following a tonsillectomy a good, bad, or indifferent prognostic sign? Should all devitalized teeth be removed in the patient with rheumatoid arthritis? How often does accessory nasal sinus disease, infectious chronic prostatitis, chronic cholecystitis, chronic non-specific cervicitis, etc., actually play a part in the etiology of arthritis? These and many more questions must be considered in the treatment of arthritis. It is true that the answers to some of these questions are controversial. However, I shall endeavor to present the opinions of a majority of rheumatologists.

It is not the intent of this paper to take sides on these controversial questions, but rather to attempt to answer the following questions which, in my mind, are the key points in the modern management of an arthritic patient.

1. Why is the diagnosis important?
2. What is the prognosis?
3. Which form of treatment is most likely to succeed in any particular case?

The first procedure in the diagnosis of an arthritic condition is a complete study of the patient, so that a correct estimate may be made as soon as possible, and that all additional complicating factors may be discovered at once. Too often a physician may diagnose a type of arthritis without a complete study, and may learn, several months or even years later, that his case of "rheumatoid arthritis" was actually one of gout, hyperthyroidism, or perhaps the articular complications of scleroderma. Although a complete study of each patient consumes time, it is productive of good results.

Classification

To understand the subject of arthritis more completely, it is necessary to have some type of classification of arthritic joint diseases.

1. *Infectious.*
   - A. Where the cause is generally known to be:
     - a. Gonococci.
     - b. Tubercle bacilli.
   - B. Where the cause is unknown, but is probably due to streptococci:
     1. Rheumatic fever.
     2. Rheumatoid arthritis (also known as atrophic, chronic infectious, infective, or proliferative arthritis).
     3. Fibrositis (probably due to an infectious basis).
2. *Degenerative joint diseases (also known as hypertrophic, degenerative, or osteo-arthritis).*
3. *Neoplastic* (benign or malignant).
4. *Neuropathic* (associated with tabes dorsalis, syringomyelia, and leprosy).
5. Under *miscellaneous arthritides* we have the following conditions:
   - A. Gout.
   - B. Hemophilia.
   - C. Serum sickness, and the arthritis sometimes associated with acromegaly, hysteria, scurvy, and similar diseases, such as psoriasis, scleroderma, and lupus erythematosus.

Plan of Study

The plan of study for the arthritic patient must include a complete, detailed history. This is the most important single factor in the determination of the diagnosis. Such an examination must consist of a complete, detailed physical examination; complete blood and urine analyses; Wassermann and blood sedimentation rate tests; blood uric acid determination; and a roentgen-ray examination of at least one of the affected joints. Additional examinations should include a gonococcus complement fixation test and, in the female patient, a gynecologic examination; in the male patient a complete examination of the genito-urinary tract. Additional examinations should be sought in the dental department, the nose and throat department, and the ruling out of gallbladder disease from the internist's standpoint.

While the diagnosis of arthritis has been considered more or less simple, yet many diseases have been mistaken for rheumatoid arthritis. The following list includes only a few of the many diseases that are not commonly thought of as producing joint pains, but may do so:

1. Syphilis
2. Pronated feet
3. Psoriasis
4. Leukemia
5. Hysteria
6. Cervical rib
7. Raynaud's disease
8. Osteomyelitis
9. Herpes zoster
10. Intermittent claudication
11. Vitamin deficiency diseases
12. Trichiniasis

While the specific cause of arthritis is unknown, many theories have been propounded, such as the following:

1. Focal infection
2. Bacterial allergy
3. Virus infection
4. Vitamin deficiency
5. Metabolic disorders, which include endocrine disturbances.
6. Traumatic
7. Circulatory
8. Neurogenic

Foci of Infection

An impartial evaluation of the literature to date suggests that rheumatoid arthritis is probably some form of an infectious disease. Although focal infections have been incriminated for more than 25 years as a causative agent of this condition, definite experimental evidence to support this claim is still lacking. The statements of most investigators who claim that focal infection is an important cause of this form of arthritis are often based upon impressions, rather than controlled observations. At present, the pendulum is swinging away from complete acceptance of the focal infection theory. In one recent report the author went so far as to state, "As far as typical rheumatoid arthritis is concerned, it would appear that chronic focal infection plays a comparatively unimportant rôle."[1]

Blood cultures in rheumatoid arthritis have varied from consistently negative to 69 percent positive. Approximately 85 to 90 percent of the patients show agglutinins to hemolytic streptococci, but as yet no one specific organism has been found to be the cause of chronic arthritis.

The findings which favor the infection theory of rheumatoid arthritis are based upon an increase in leukocytes, a rapid sedimentation rate, a tendency to low-grade fever, and inflammation of synovial membranes and periarticular tissues. Further evidences are noted in the exudative characteristics of the synovial fluid and the frequent presence of large lymph nodes near the involved joints.

On these findings one cannot say that a focus of infection is responsible for rheumatoid arthritis. In many cases no foci can be found or, if discovered, their removal may or may not result in improvement of the arthritic condition. On the other hand, improvement has been known to occur without the removal of foci. In my opinion, foci of infection should really be viewed as portals of entry of infection; that is, organisms or toxins may gain entrance to the blood stream and thence to the joints through such portals, but there is not necessarily a constant or intermittent dissemination of toxic material from such foci.

Treatment

To summarize the treatment of rheumatoid arthritis is difficult. Some individuals are skeptical of the results of any form of treatment other than rest, nourishing diets, and physical therapy. Others extoll the value of vaccines, sulfur, gold, removal of focal infections, etc.; yet few physicians would agree upon the same treatment for any particular case. However, one must have a definite plan of attack which is applicable, in general, to any of these patients, realizing that we are treating both the individual and his disease.

Arthritis is one of the most common diseases of modern civilization, affecting from 2 to 3 percent of the entire population of this country. Chronic arthritis causes more disability than any other disease, and yet, in spite of this, although many hospitals have sections for the study of such patients, there are few devoted solely to the treatment and management of arthritis.

Patients with rheumatoid arthritis are unable to obtain adequate hospital care because of the cost, and free-clinic patients suffering from this disease are seldom welcome in any clinic for more than five or six weeks. The major needs for any arthritis clinic should include: better institutional facilities; physicians well trained in this work; funds for research; and adequate instruction to medical students.

Anyone who dares outline a plan of treatment for arthritis is inviting criticism, because of the great variation in procedures used by many specialists in this field, and also because no one treatment is applicable to all such patients. However, rather than offer no plan of management, one is justified in outlining that regime which tends to produce the best results in a majority of patients with this disease.

Any plan of treatment of arthritic patients is far from perfect. Future bacteriologic, chemotherapeutic, and immunologic studies may result in a much better understanding and more rational management than can be offered at this time. It has been my desire to steer clear of set rules for the treatment of every arthritic patient, and to consider each patient as an individual problem, outlining the proper regime for each according to the findings in the case.

Inasmuch as most arthritic patients are mentally as well as physically tired, emotional factors have been found at work in many of these patients a good while before the actual appearance of arthritic symptoms. One of the most constant worries of these patients is fear of progressive deformity and despair of relief and cure. It has been my experience that relief in chronic arthritics may be obtained in as many as 70 percent of the cases seen. Therefore, the physician is justified in manifesting a degree of optimism and confidence to the patient concerning the outcome of his particular illness. Such optimism must be *genuine*, and not simply overenthusiasm with a promise of a rapid cure. The word "cure" should never be used in discussions with patients suffering from chronic arthritis.

Patients in general appreciate being told that in about 20 percent or more of the cases of true rheumatoid arthritis the condition seems to be completely amenable to treatment and that, in an additional 50 percent, moderate or marked improvement is the rule.

Most patients with arthritis have tried various home remedies, fads, and patent medicines before consulting a physician. They have come in contact with Mrs. Jones, whose arthritis was cured by a diet of lemons or some such treatment advocated by the laity and commercial concerns. Almost all arthritics are constantly seeking information concerning the treatment of their disease, and as a result eagerly digest and remember the articles appearing in medical and pseudo-medical newspapers and magazines. Thus, the physician handling such patients must be well versed in the

1. Pemberton, R.: "Arthritis and Rheumatoid Conditions." Philadelphia: Lea and Febiger.

common literature of this disease. At the same time it is necessary that he persuade the patient that, in the long run, *his* form of treatment will produce the greatest improvement in the largest number of cases.

After the physician has convinced his patient that he has at least seven chances in ten of being improved, he must stress the point that the treatment will, in all probability, be prolonged and will require from six months to a year, or even longer. It is true that, in some cases, extraordinary results appear in a few weeks, but this is not the rule, and if the patient is made to realize this at the beginning of treatment, he will not experience keen disappointment following many months of treatment.

No physician treating arthritis should be content to rest upon his laurels, month after month, if no improvement occurs. Any procedure that fails to bring desired results should be checked and rechecked. The diagnosis should be reconsidered and frequent observations should be made of the physical condition of the patient and of the laboratory findings.

The physician dealing with arthritics must recognize these patients as sick individuals, suffering from a *generalized* disease manifesting itself in the joints and muscles.

As in pulmonary tuberculosis, where few physicians doubt the value of rest in bed, so a proper amount of rest in bed will prevent fatigue, worry, or emotional upsets during the active stage of arthritis. During this period of rest, ankylosis, contractures, and muscular atrophy are prevented by physical therapy. As a general rule, each joint should be moved through as full a range of *painless* motion as possible, at least twice a day, except acutely inflamed joints. To prevent adhesions, properly administered massage of the muscles between the joints will maintain muscular tone and result in larger and more powerful muscles during his rest period in bed.

This period of rest varies with the individual. In some, one or two weeks may be of marked benefit, while in others from four to six months may be required to produce any marked effect. When rest in bed is impossible, rest for one to two hours a day is worth insisting upon. Arthritic patients must be impressed with the importance of regular hours for sleep, diet, etc. The physician, at his discretion, after a thorough understanding of the case at hand has been obtained, may use as adjunct treatment any, or a combination of any of the accepted treatments at his disposal. This includes the use of vitamins, the injection of bee venom, the paraffin method, and physical therapy, including hydrotherapy.

In general, the physician handling arthritics must constantly buoy up the spirits of these patients to high pitch, not with false hopes, but with the true enthusiasm of carefully and deliberately planned treatment.

512 Argyle Bldg.

Simplified Sinus Treatment

Part I

By

Russell A. Winters, M.D., Chicago, Illinois

Our readers will be pleased to see that Dr. Winters is starting another series of his "picture articles", to show general clinicians how to manage most cases of a common condition that is often poorly diagnosed and treated.

Nurses and technicians with our armed forces, as well as physicians treating workers for national defense, should treat cases of head colds, bronchitis, and nasal dripping for an *active sinusitis*. Proper initial care will keep more than 90 per cent of these patients ambulant, and will greatly diminish the number that should be confined to bed or will require the care of a specialist in this field.

Active sinus infections are commonly overlooked, due to the absence of headaches, which are present only *when the outlet to a sinus is occluded* and a continued mucus secretion within the sinus cavity causes pressure. A sinus infection may be diagnosed by a palpable congestion of the lymphatic channels draining the sinus or by reflex areas of tenderness.

Roentgenogram and transillumination shadows are present only if the secretion within the sinus is thickened, or if a chronic infection has caused a thickening of the mucous lining of the sinus. Many cases of sinus trouble are not properly diagnosed.

Arthritic changes in the cervical vertebrae, shoulder, and the region of the scapula, as well as *impaired vision, neuralgia, migraine, and wry-neck are commonly secondary to a sinus infection.*

Contributing factors, such as a deflected nasal eptum, structurally abnormal or congested turbinates, colonic disorders, protein sensitivities, and foci of infection should be sought and corrected when present.

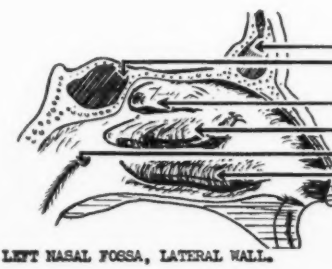
Past or present infections in the head or pharynx may cause deposits of connective tissue along the lymphatic channels or the cervical region, resulting in deficient lymphatic drainage from the sinuses, with a consequent lowered resistance of the membranes to infections. Injections of a formic acid solution into these areas of palpable tenderness and fibrositis along the deep cervical lymph channels reduce the chances of a recurring sinus infection.

Open nasal passages during breathing do not indicate an absence of sinus trouble, because, when

* This is the first of a series of articles on this subject. The second will appear in an early issue.

inhaling, the air passes chiefly below the inferior turbinate. When exhaling, the air follows the curvature of the nasal vault and passes the sinus openings. Nasal sprays, or nose drops, are more effective if the patient "pants like a dog," through the nose, in a series of short rapid breaths, remembering that the *exhalations* take the medicine nearer to the area desired.

5 North Wabash Avenue.



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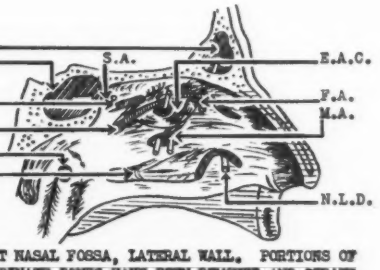
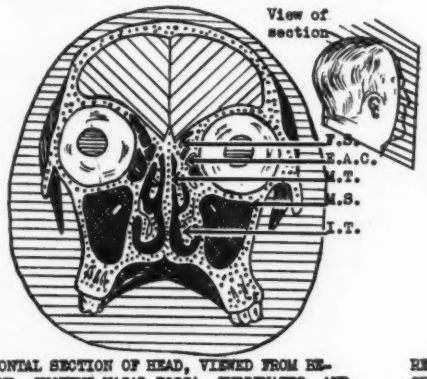
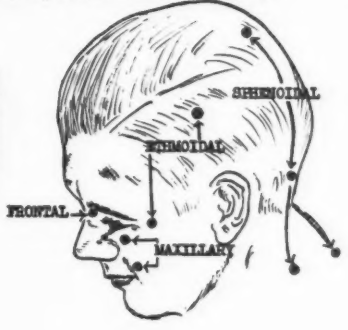


LEFT NASAL FOSSA, LATERAL WALL. PORTIONS OF TURBINATE BONES HAVE BEEN REMOVED AND STRAWS EXPOSE OPENINGS INTO AIR SPACES.

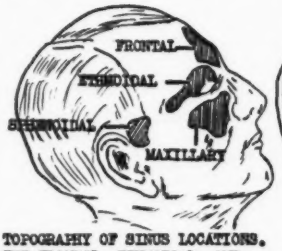
S.A.-SPHENOIDAL ANTRUM; F.A.-FRONTAL ANTRUM; M.A.-MAXILLARY ANTRUM; F.S.-FRONTAL SINUS; S.S.-SPHENOIDAL SINUS; E.A.C.-ETHMOIDAL AIR CELLS; N.L.D.-NASO-LACRIMAL DUCT; E.C.-EUSTACHIAN CANAL; S.T.-SUPERIOR TURBINATE; M.T.-MIDDLE TURBINATE; I.T.-INFERIOR TURBINATE.



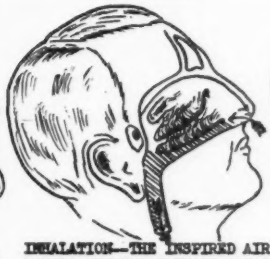
FRONTAL SECTION OF HEAD, VIEWED FROM BEHIND, SHOWING NASAL FOSSA, TURBINATES, AND COMMUNICATIONS WITH FRONTAL, ETHMOIDAL, AND MAXILLARY SINUSES. STRAWS SHOW SINUS OPENINGS.



REFLEX AREAS OF TENDERNESS DUE TO A SINUS CONGESTION. SINUS HEADACHES IN THESE REGIONS MAY BE CONCURRENT OR ABSENT. PAIN IN NECK OR SHOULDER MAY BE A SPHENOIDAL SINUS LYMPHATIC EXTENSION.



TOPOGRAPHY OF SINUS LOCATIONS. THE FRONTAL, ETHMOIDAL, AND SPHENOIDAL SINUSES LIE NEAR THE MIDLINE.



INHALATION—THE INSPIRED AIR PASSES CHIEFLY BENEATH THE INFERIOR TURBINATE. AN OPEN NASAL AIR PASSAGE DOES NOT DENOTE THE ABSENCE OF A SINUS INVOLVEMENT.

EXHALATION—THE EXPIRED AIR FOLLOWS THE CURVATURE OF THE NASAL VAULT AND PASSES THE SINUS OUTLETS.

Aviation Medicine*

By

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DR. IVY

All physicians, whether or not they expect to serve with the armed forces, and especially the younger ones, who may aspire to qualify as flight surgeons, should be interested in this brief presentation of a few of the problems of aviation medicine.

WITH the tremendous importance of the air forces in the present war, the development of aviation medicine has been vastly stimulated, and a brief discussion of the problems that are being encountered by the physicians who are caring for the physical and psychic welfare of the pilots, and by the research workers who are studying these problems, which had been largely neglected by the United States and Britain before the war began, should be of interest to all physicians.

Anoxia begins to be manifest at a height of 5,000 feet above sea level, and in a good many individuals shows itself as dyspnea on exercise and disturbances of cortical (sensory) functions, with difficulty in writing and color naming and confusion of movements. Elaborate tests for all these points have been devised.

At 10,000 feet these symptoms are more or less present in all persons. At 15,000 feet, from 85 to 90 percent will show obvious disorders of function (faintness, sickness, etc.), but about 5 percent of these will recover their psychomator functions in a few minutes, if they go no higher. At 18,000 feet, practically all individuals show gross errors of psychomator performance; and at 25,000 feet (about 5 miles), most people will die in from 20 to 30 minutes, if unprotected†

All fliers should start using oxygen at 10,000 feet; if they are going up *rapidly,* its use should be begun before they leave the ground.

Above 35,000 feet, anoxia begins to develop even when the flier is breathing 100 percent oxygen, because there is not enough *tension* to drive the gas into the blood, so those who are going to such heights must be equipped with apparatus for furnishing the oxygen *under pressure.*

At such altitudes, *hyperventilation,* due to deep and rapid breathing in an effort to get more oxygen into the body, may cause such a loss of carbon dioxide that serious symptoms, even to tetany and convulsions, may appear; so the mask used must be of the *rebreathing* type, which means it must fit *air tight,* and therefore must be made to order for each individual flier. Moreover, if *too much* carbon dioxide accumulates in the rebreathing bag, it interferes with the alveolar exchange of gases.

A man who requires 2,500 cc. of oxygen per minute at sea level, needs 4,000 cc. per minute at a height of 30,000 feet. We do not yet know why this is so.

Another point to be remembered is that, at an altitude of 30,000 feet, the *temperature* is 40° below zero, F.; and at 40,000 feet, 60° below zero.

Pilot's fatigue may be acute or chronic and is more common in bombing than in fighter pilots, probably because of their longer exposure and severe tension, followed by a psychic letdown after the bombs are dropped, and then the flight home, which may take 5 or 6 hours.

Recreation facilities and *religious activities,* at the flying base, are highly important to support the morale of fliers. If these are inadequate, the level of safety of the pilots, physical and mental, is lowered.

Dive bombers frequently experience a brief or momentary loss of consciousness ("blackout"), because, when they reach a speed of 224 feet per second and then turn upward, practically all the blood leaves the brain for the belly and feet. Remember that, if cerebral anoxia lasts for five minutes, the individual never recovers consciousness.

Under the reverse conditions (climbing rapidly and steeply and then diving), the blood is thrown into the brain too fast and the results may be even worse, because hemorrhages may occur.

In diving, the strain on the *eardrums* becomes so great that these membranes may rupture from pressure on the eustachian tubes. Chewing gum may help to overcome this condition, but all fliers who do dive bombing must learn how to open the eustachian tubes by moving the mandible or some other simple maneuver. Sinus trouble makes the difficulty with the ears worse.

It has been found that, if the nitrogen is rather fully washed out of the blood with oxygen before violent changes in pressure are undergone, the danger of *caisson disease* ("bends") will be eliminated or minimized. The danger of *air embolism* is greatest for the pilots of interceptor planes.

Parachute Drop

Our most important information in regard to the physiologic effects of a parachute drop was obtained through the work of Arthur H. Starnes, who made a number of jumps under carefully controlled conditions, carrying recording and communicating apparatus and other equipment weighing 90 pounds—two chutes, oxygen equipment, barograph, pneumograph, broadcaster, movie camera, etc.

Mr. Starnes' crowning exploit, during which he produced scientific records of incalculable value, was performed October 24, 1941, when he "bailed out" at an altitude of 31,400 feet above sea level, and did not open his parachute until he was only 2,100 feet above sea level (1,500 feet above the ground)—*a free fall of 29,300 feet.*

In such a fall, the pressure upon the body becomes tremendous, as the speed of the fall goes as high as *790 miles an hour.*

*Abstract of a talk before the Medical Round Table of Chicago, Jan. 13,1942. Reported by G. B. L.

†Most of the experiments on which these figures and other similar information are based have been performed in vacuum-pressure chambers, where the conditions can be accurately controlled and careful records made.

If a man jumps from a plane traveling at 150 miles an hour and opens his parachute at once, the body shock from the arrested motion is 2,500 pounds; if the plane is going 200 miles an hour, it is 5,000 pounds.

It is, therefore, recommended that a chutist should wait until the speed of his motion is reduced to about 120 miles an hour before pulling the rip-cord. This also permits him to get clear of the danger of having his parachute punctured by objects which might fall from the plane, and also to avoid fouling other jumpers.

The chutist may "black out" for a moment when his parachute opens, because of the sudden deceleration of his fall. This rarely happened to Mr. Starnes, but did occur on his long free fall.

We are far from knowing the last word on any of these subjects, as aviation medicine is still a young science, which will require from eight to fifteen years for its full development, but the foregoing rather random comments will give some idea of the problems it puts before us and some of the methods that are being employed in their solution.

Hernia Injection Treatment

(An Improved Technic)

By

R. DE R. BARONDES, M.D., Los Angeles, Calif.

Physicians who have hesitated to treat hernias by injection, because of danger from the sharp needle, should find Dr. Barondes' article encouraging and helpful.

THIS article presents an improved technic for the injection treatment of certain types of hernia, which has not yet been described in any texts. In the treatment of an inguinal hernia, the approach to the canal through the scrotum is facilitated by the use of two new instruments that I have devised for the purpose (see Fig. 1).*

Those experienced in hernia injections have, in the past, hesitated to use and advised against injection treatments from below, through the scrotum, because of the great danger that the sharp needle might injure the blood vessels, cord, nerves, etc., and of the accidental injection of the sclerosing fluid into the sac and peritoneal cavity. However, with this new method, these objections have been practically overcome.

The advantages of the improved technic over other injection methods are:

1. Reduction in the number of injections to effect a cure.
2. Less layers of tissue to be punctured to properly deposit the sclerosing fluid in the canal.
3. Less likelihood of penetrating blood vessels, nerves, cord, etc.
4. Minimizes the possibility of puncturing the hernial sac and the hazard of depositing the solution within the abdominal cavity.
5. Facilitates locating the internal ring, and assuring that the solution will be properly deposited there.
6. Assurance of a quicker and more lasting effect through the even distribution of the sclerosing fluid, which induces a uniform tissue hyperplasia.

The New Technic

Before commencing any hernial injection treatment, one must make certain that complete reduction of the hernia is effected. Place the patient in a semi-Trendelenburg position, which permits the abdominal contents to gravitate away from the internal inguinal ring. In treating an indirect inguinal hernia, mark on the skin the approximate location of the internal ring which, unlike the external one, cannot be palpated. The position of the ring can be quickly determined by drawing a line from the anterior superior spine of the ilium to the pubic tubercle. The internal ring is approximately 1 cm. above the center of this line, and 0.5 cm. to the inner side. When the tip of the examining finger is placed at the external ring, by invaginating the scrotum, the internal muscular ring will be some two inches distant.

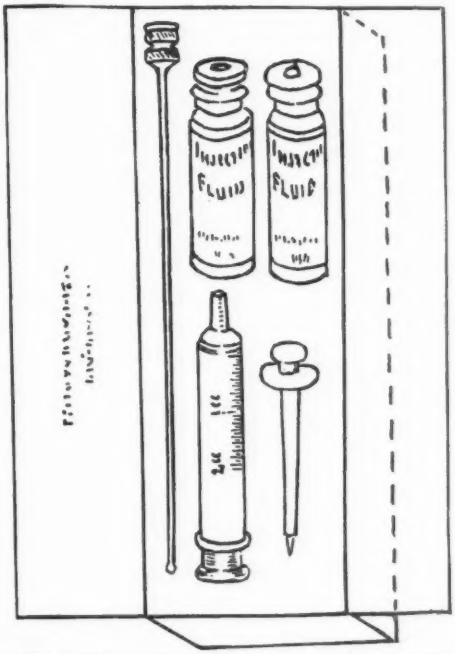

Fig. 1: The complete injection kit: (A) Cannula; (B) Trocar.

After proper cleansing, the scrotum is picked

*The complete injection kit may be obtained from The Wocher Medical and Surgical Supply Co., Cincinnati, Ohio.

up with the thumb and forefinger, a small area on the antero-lateral aspect is anesthetized with procaine solution, and a small nick, no larger than that by a hydrocele trocar, is made through the scrotal integument with a thin, sharp knife. Through this opening is inserted the blunt, flexible silver cannula which is attached to the filled syringe. Make certain that no air remains either in the syringe or the cannula.

With the tip of the cannula under the index finger (the left for a left inguinal hernia, the right for the opposite), invaginate the skin of the scrotum upon itself (see Fig. 2), carrying the end

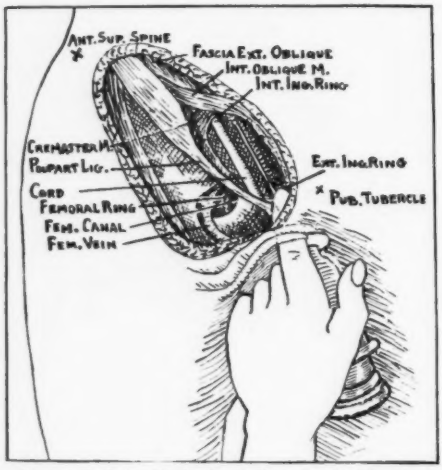

Fig. 2: Technic of injecting indirect inguinal hernia.

of cannula under the tip of the index finger to the external inguinal ring, where the finger remains as a guide to advance the cannula gently into the canal, to the approximate boundary of the internal ring. By slightly depressing the syringe, one can, with the free hand over the lower abdominal quadrant, perceive the tip of the cannula, which should be directly under the previously marked spot on the skin over the internal ring.

The fluid† is now slowly ejected from the syringe, while slowly withdrawing the cannula until the external ring is reached. About 1.5 to 2 cc. of solution are sufficient to treat all of the inguinal canal, if the cannula is properly manipulated to circumscribe the tissues therein. Before withdrawing the cannula from the canal, press lightly, over the skin, a small pledget of cotton, to prevent leakage of fluid into the subcutaneous tissues. After a few minutes, a properly-fitted truss is adjusted and the patient allowed to arise.

To facilitate the insertion of the cannula, one may, instead of nicking the scrotum with a knife, use a small trocar (see Fig. 1). The stilette is removed after puncture is made and the tip of the trocar is inserted to the external ring, where the trocar acts as a guide for the flexible cannula, which is passed through it into the inguinal canal. By allowing for the length of the trocar (1½ inches), the cannula (4½ inches) is just sufficient in length for its tip to reach the internal ring area.

This technic permits a more even distribution of the fluid which induces the desired local tissue hyperplasia, thus uniformly tightening both rings around the cord and completely closing the canal with complete disposition of the sac. A second such injection may be given 10 days later, at which time one finds that the cannula will not pass so readily, due to the rapid fibrous-tissue reaction. Two such injections will usually suffice to effect a cure.

As with any other form of injection treatment, there are no hard and fast rules governing the length of time that should elapse between injections and the amount of solution used, the amount and the time varying with the individual's condition as to size of the hernial sac, the rings, etc.

In the treatment of a *direct inguinal hernia*, the technic is the same, except that sufficient scar tissue should be assured in the region of the lower part of Hesselbach's triangle, in two fascial planes (that of the weak transversalis fascia, the area of exit of the direct hernia, and that of the external fascia). For this reason it may be advisable, under certain circumstances, to make an injection or two in this area, through the abdominal tissues, to re-enforce these weakened structures. No injection is necessary in the canal at the internal ring since, in a direct inguinal hernia, the abdominal contents do not pass through it. However, it is a good policy to treat the entire canal, as there is usually present, in all individuals, a small, congenital sac that could later lead to an indirect hernia. In the treatment of an indirect hernia, the hernial sac becomes occluded to form a fibrous cord; while with the direct variety the sac, with its broad base, drops back into the peritoneal cavity.

Femoral Hernia

A femoral hernia is the protrusion of abdominal or pelvic viscera through the femoral (crural) ring into the femoral canal, or beyond it. This ring is the internal opening and communicates with the abdomen. (The foramen ovale, at the saphenous opening, is often called the femoral ring.) The average width of the femoral ring is ⅔ inch in the male; while in the female it is about ⅞ inch.

The sac of a femoral hernia is a protrusion of the peritoneum which, with its contents, takes a downward, forward, and then upward course during its progress, so that it describes a curve, causing the hernial sac and contents to turn upward, and occasionally extending over the ilioinguinal ligament, thus simulating an inguinal hernia, with which it might be confused.

With the patient in the upright position, outline and mark on the skin the filled sac and the location of the upper limit of the foramen ovale at the saphenous opening. From here draw a perpendicular line to the lowest point of the hernial sac. Palpate the femoral artery, outlining it also on the overlying skin, together with the femoral vein, which lies immediately to the inner side of the artery, the sheath of the vein forming the outer boundary of the femoral canal.

The patient is then placed on the table in an exaggerated Trendelenburg position to permit the abdominal contents to fall completely away from the femoral ring. Prepare the skin by shaving and sterilize it with liquid soap and 70 percent alcohol.

Anesthetize a small spot at a point on the perpendicular line previously marked on the skin with procaine solution, pick up the skin between the thumb and forefinger, and make a puncture just large enough to permit insertion of the flexible cannula. One may use the small, sharp trocar for

†I have found Sylnasol (Searle) and Alparene (Dequin) satisfactory for this purpose.

the purpose, but care must be taken that the point of the stilet does no damage to the vital structures beneath. If the trocar is used, the stilet is withdrawn after puncture, the tip of its cannula placed at the femoral opening, the index finger acting as a guide, and the flexible cannula is guided through it, while the finger retracts the femoral vessels outward, moving it forward in a downward and inward direction toward the median line of the body till it reaches the posterior margin of the femoral passage. From 1 to 2 cc. of sclerosing fluid are slowly ejected while gradually withdrawing the syringe. A small piece of cotton pressed over the skin for several minutes will prevent leakage of the solution in the subcutaneous tissues.

The amount of solution injected depends primarily on the age, weight, and health of the patient, and on the size of the hernia and the ease with which it is reduced. The average quantity is 1.5 cc., which safely fills the femoral canal. One or two such injections may suffice to close the canal permanently, in the smaller type of hernias, provided a properly fitted truss is worn. Massive femoral hernias tolerate large quantities of solution; while smaller ones and those that are reduced with difficulty, require correspondingly smaller amounts. Femoral hernias, by the usual injection method, are not treated so often, nor given so many injections as are required for inguinal hernias.

Treatment of a femoral hernia is complete when the ring and canal are closed, the sac obliterated, and no impulse is felt when the patient coughs. A second similar injection may be given 10 days later. Palpation of the femoral region gives a good idea of the amount of new fibrous tissue produced, and one should be governed accordingly. A truss should be worn day and night during the treatment, and for a month following the last injection. All patients should be examined once a month for a year, looking for possible recurrence or weak spots near the femoral ring. (For those with insufficient experience in hernial injections, this type of hernia should be referred to a competent surgeon. At the best, it is impossible to obtain a 100 percent satisfactory truss for femoral hernias.)

Fitting the Truss

Before commencing any hernial injection treatment, a truss that causes the minimum of discomfort and that holds the hernia under all conditions of exercise and work must be fitted. No treatment should be given until the truss has been worn for about two weeks, so that the patient may become fully accustomed to its presence, and to permit toughening of the skin, to prevent irritation.

Before starting the treatment, the operator should remove the truss; and after treatment, he should adjust it while the patient remains on the table, to prevent any possibility of the hernia coming down, which could happen if he should suddenly assume the upright position without the truss.

Unfavorable Cases

Careful consideration should be given to all types of hernia in the selection of cases for treatment by the injection method. They should not be treated indiscriminately and without due regard to the age of the patient, the size of hernias and external rings, and such systemic states as diabetes, ascites, and syphilis. These latter situations are not peculiar to the injection treatment, since operative surgery can offer no more, if carried out under similar handicaps.

All irreducible hernias (strangulated, incarcerated, or obstructed) and those with intrasacular adhesions or containing omentum, intestine, or other viscera should *not* be injected. Other definite contra-indications are: large hernias, with rings measuring more than 3.5 cm. in diameter, or those in which the edges of the hernial rings cannot be brought into apposition by a firm-fitting truss. Femoral hernias also complicated with sliding hernias, and those with undescended testes, should be treated only by surgery.

Hydrocele

Though hydrocele does not come within the subject of this discussion, this condition occasionally follows injection treatments of inguinal hernias, especially that of the indirect variety, and materially interferes with the wearing of a truss. The hydrocele fluid should be aspirated, inserting the needle into the sac diagonally, to prevent the escape of fluid after injection. Measure the amount of the fluid withdrawn, and for each 15 cc. extracted, inject 1 cc. of sclerosing fluid before removing the needle. After the needle is withdrawn, lightly massage the underlying tissues to assure an even distribution of the fluid to all parts of the sac, and thus obliterate it. A second injection may be given, which usually suffices to effect a cure. If any exudate is still present in the sac, it should be drawn off before injecting the sclerosing solution. Following the treatment, the patient should wear a suitable suspensory.

As with any other type of non-operative treatment where body tissues are to be punctured, more or less risks of various sorts will be encountered, but such hazards are fewer than those encountered in operative surgery. Such injection treatments can do no harm, in the hands of competent persons, and if they should prove unsatisfactory, would not interfere with an open operation, if it should be indicated later. The technic described offers no more risk, and is practically as simple, as the tapping of a hydrocele.

Some of the statements in this article admittedly are controversial, but any method advocated, especially during these times, which will not be confining nor cause loss of working hours, should be given a trial.

346 N. Vermont Ave.

A GOOD NAME

Would you have your name smell sweet with the myrrh of remembrance and chime melodiously in the ear of future days? Then cultivate faith, not doubt, and give every man credit for the good he does, never seeking to attribute base motives to beautiful acts.—ELBERT HUBBARD.

Intravenous Anesthesia

Clinical Experience in More Than 2,000 Cases

By

WINFIELD SCOTT PUGH, B.S., M.D.,
New York City

Every clinician has frequent need to employ a brief general anesthesia in his work. Dr. Pugh describes a simple method, with which he has had extensive and satisfactory experience.

EVER since the dawn of modern surgery, the need for a rapidly-acting anesthesia of short duration has been apparent. In 1911, attempts were made to accomplish this with the intravenous use of various drugs, but the pioneers allowed themselves to be discouraged and little more was heard until the introduction of Evipal, in 1933, when Wiese, in Germany, demonstrated that this drug fulfilled the postulates of an ideal anesthesia, of the type desired, when administered intravenously.

Soon after its original introduction in Europe, the use of Evipal spread rapidly on that continent. Baetzner, of Berlin, in 1935, reported 2,000 Evipal anesthesias with no deaths. J. T. Gwathmey asserted, in 1936, that this barbiturate had been used in Europe more than 800,000 times, but conservative Americans were a little tardy in recognizing the value of any drug used intravenously as an anesthetic. In fact, many of my associates looked rather with despair on my frequent utilization of Evipal in urologic and gynecologic minor procedures. However, an American literature is accumulating[1, 2, 3, 4], and we note today a gradual increase in the recognition of intravenous anesthesia. Two barbiturate drugs are chiefly used, Pentothal and Evipal. My experience has been with the latter only, but both appear to be valuable.

It early became evident that an easily administered anesthesia, from which a quick recovery could be expected, was quite definitely called for in urology, especially in cystoscopy. The urologist is constantly encountering patients in whom a complete examination appears in order, but because of undue fear or extensive disease, the procedure cannot well be accomplished without narcosis. General anesthesia with ether or similar drugs is not always practicable, and neither is sacral or caudal anesthesia.

In most cases, a considerable degree of topical anesthesia may be obtained in the urethra. Some of my colleagues deny this, but personal experience in undergoing cystoscopy, with and without these urethral applications, has decided the question for me. Violent urethral or bladder irritations, on the other hand, do not permit accurate observation unless the patient is relaxed.

I am thoroughly in accord with Merrit,[5] who says: "Many times the necessity for a cystoscopic examination would be pointed out to patients, only to have them reply that, only as a last resort, would they undergo such an ordeal. Invariably I found, on questioning these people, that some friend or relative had undergone cystoscopy, had suffered terribly, and then told all his relations and friends never to submit to such a barbarous procedure. Too often we urologists are inclined to forget that we are at the painless end of the cystoscope and, being absorbed in the intense interest of the examination, do not observe the facial expressions of agony on the part of the patient." To Doctor Merrit's remarks I should like to add, no man should be permitted to practice urology unless he has had at least one cystoscopy, or at least has had a urethral sound passed on himself.

After only a few observations of the action of Evipal, given intravenously, I became quite convinced of its value where any difficulty with a cystoscopy seemed even remotely possible. Following a series of more than 100 successful cystoscopies, I felt there was a far wider field for such an anesthetic in the realms of urology and gynecology, and perhaps beyond. Reference to the accompanying table of operations (Table I) will give the reader a good idea as to the extent to which I have utilized this technic.

In gonorrhea of women I have employed Evipal to its fullest extent. Despite the brilliant results achieved by coagulation and conization of the cervix, these technics are used but little, particularly by gynecologists of experience. Often I have been told they are not surgical procedures. The answer is that they *cure*, and when used early, save many patients from extensive abdominal operations. A small dose of Evipal, intravenously, allows one to carry out these procedures speedily and with nicety.

In the field of general surgery, practically every part of the body has now been invaded, using Evipal as an anesthetic. I have, however, limited my work in this line to those operations which it is believed one can do with celerity, and yet give the patient a probability of speedy recovery.

Every physician knows a type of case in which it is necessary to "slip over" the anesthesia without the patient's knowledge. As an ideal example of this we have the thyroid sufferer who needs a ligation of the superior or inferior vessels, and in whom the fear of an anesthetic is often disastrous. I remember an elderly gentleman who had a suprapubic cystotomy, as a preliminary to prostatectomy. Some three weeks later he thought the second operation to be needless. After consultation with his relatives, this man was given Evipal, and did not know that the prostatectomy had been performed until a long time after.

A large experience in military surgery convinces me that this branch of medicine presents a wide field for intravenous anesthesia in reductions of fractures and dislocations and the large number of other wounds that must be handled with great expedition. The administration of inhalation narcosis requires too much time and apparatus for use in battle-field or field hospital service. There is hardly any condition in the line of military surgery, in which the judicious use of intravenous anesthesia would not be a blessing.

Lieber[4] says "The prophecy is made that Evipal is destined largely to replace regional tech-

nics in anesthesia," and gives his reasons, which are so clear as to be well worth repetition.

1. Evipal requires no complicated apparatus.
2. It does not require great practice or specialized technics.
3. Practically no waiting for the onset of anesthesia.
4. Elimination of fear, excitement, and restlessness.
5. No danger of spreading any infection.
6. No prolonged post-anesthetic recovery period.
7. No undesirable general or local effects.

Method of Administration

In minor operations (and this includes such procedures as cystoscopy and cervical coagulation or conization), it has not been my custom to use any preliminary medication. Where I feel that the operation may be a bit prolonged, a hypodermic injection of Pantopon, ⅓ grain (21 mg.), is always given one hour prior to operation. It is worthy of mention, that I have seen about one percent of vomiting in those cases in which preliminary medication was *not* used, and about ten percent where Pantopon was given.

The patient, as a rule, is not told that an anesthetic is being given. The reason for this is quite apparent, particularly in those of a nervous temperament. An inflatable cuff, similar to that of the sphygmomanometer, is placed just above the elbow presenting the most conspicuous veins. Pressure is applied with the bulb until the vessels stand out, which is facilitated by gentle slapping with the hand. A 10-cc. syringe, filled with a 10-percent solution of Evipal and attached to a 25-gage needle should be in readiness. After sponging the skin with alcohol, the needle is inserted into a vein, with the usual precautions.

The patient is then told to count, and as he does so, the solution is *slowly* injected and, as a rule, by the time he has counted twenty-five, slowly and loudly, he stops and the anesthetic is completed for any minor operation. This period varies from thirty seconds to a minute. The amount given rarely exceeds 5 cc., except in abdominal and prostatic operations, where 10 cc. are used. I start the operation just after the last number is called off by the patient. Where a longer operation is anticipated, the needle is left in the vein and capped, so that more Evipal may be given in case there is some suggestion of returning consciousness.*

While under the anesthetic, the patient must be watched, the same as if ether were given, as the jaw tends to relax and the tongue to fall back, exactly as it may with any other technic. It hardly seems necessary to add that the anesthetist must be an experienced person.

Anesthesia is generally smooth, with but a minimum of toxic effect. Certainly in not over ten percent was there any spasm or twitching of the extremities. On the other hand, Carraway states[1] that these manifestations occurred in 60 percent of 178 cases. There is, however, always a drop in the blood pressure of from ten to twenty points. I have never seen a fall of forty points, as has been reported by other surgeons. Respiration is decreased and the pulse rate slightly increased in almost every instance. In most of my patients there was but little blood change. Five percent (all persons whose operations were of thirty minutes or more duration) showed methemoglobinemia.

Where the amount of anesthetic used was small (say 3 cc.), the patients were conscious within a few minutes, especially in cystoscopy and cervical coagulation or conization cases. Where it was necessary to use 10 cc. or more, the patients recovered in from fifteen to thirty minutes.

A striking fact is that many of those anesthetized insisted that they had not been asleep, and were eager to know when they were going to be operated upon, or how much longer they would have to wait.

Although some patients, after prolonged anesthesia, were nauseated, this annoying condition was always of short duration. In abdominal operations, there was little evidence of gas annoyance, and it was never necessary to administer opiates for the relief of pain, because most of these patients, after the primary recovery, returned to a prolonged sleep, lasting several hours.

Evipal has been shown to be a considerable aid in obstetric practice.

TABLE I

OPERATIONS	No.	RECOVERY TIME
Appendectomy	11	Av., 35 min.
Coagulation of cervix	1025	Av., 10 min.
Conization	820	Av., 10 min.
Cholecystectomy	1	Av., 33 min.
Cholecystotomy	1	Av., 29 min.
Cystoscopy	131	Av., 15 min.
Dilatation and curettage	26	Av., 20 min.
Dressings	35	Av., 5 min.
External urethrotomy	6	Av., 10 min.
Incision and drainage	70	Av., 5 min.
Ligation of thyroid vessels	4	Av., 20 min.
Peri-renal abscess	3	Av., 15 min.
Prostatic abscess	9	Av., 15 min.
Prostatic resection	4	Av., 25 min.
Prostatectomy, secondary	1	Av., 21 min.
Resection of rib	2	Av., 15 min.
Retro-peritoneal gland, suppuration	3	Av., 15 min.
Vasectomy	10	Av., 20 min.
Total	2,162	

I confess that our list, and the type of operations (see Table I), is by no means so formidable as those presented by some other surgeons; yet it seems to present the sort of procedures in which best results can be expected, where a short general anesthetic is indicated. In my list of operations, those on the gallbladder alone required a few cc. of additional anesthetic.

Summary

1. The introduction of intravenous anesthesia is a distinct advance.

2. In short operations there is a minimum of disturbance, such as excitement, fall of blood pressure, or vomiting.

3. Evipal, or some other similar anesthetic, may be used for prolonged procedures, but gives best results in short operations.

4. A great advantage is the lack of the fear element, as most patients do not know that they have been anesthetized.

5. Despite what has been said, the only disadvantage lies in the fact that, once administered, the anesthetic is out of our control. This means that just as much care must be exercised in the administration of Evipal as with other forms of anesthesia.

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*The Becton & Dickinson intravenous anesthesia apparatus (see CLIN. MED., Jan., 1942, p. 13) may well be used in such cases.—Ed.

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Psychiatric Problems in General Practice*

By

LOUIS J. KARNOSH, M.D., Cleveland, O.

Most patients with mild or early psychic disorders consult their family doctor first. Here are some points that will help him to deal with such cases intelligently.

THE vast majority of patients with mild mental disorders still go to their family physicians for advice and relief, and their troubles can often be palliated without calling for help from a psychiatrist.

Early psychiatric problems can be divided into three groups:

1. Early organic brain diseases.
2. Psychoneuroses.
3. True mental diseases.

Organic brain disease presents a few reliable criteria: (1) A fine tremor of the lips, nasal fold, tongue, and fingers; (2) the handwriting will show an angulation of round letters, which may run together, or letters and even short words may be omitted; (3) clumsy speech, especially of words which require fine coordination; (4) there is a trend away from orderly, well-established habits of dress, eating, and niceties in delicate personal matters (this information must be acquired from some member of the family); (5) emotions are increased, as shown by coarse "wise-cracking," emotional coloring of speech and action, shallow facetiousness, increased irritability, and a tendency to easy elation or moroseness; (6) under the influence of alcohol or high fever, or after a slight injury to the head, all these infirmities may show themselves in an exaggerated form. After an alcoholic bout, a patient may reveal to his startled wife, for the first time, the full-blown picture of his deterioration, by his crude behavior and emotional instability.

Do not be misled into making a diagnosis of neurasthenia, and advising a patient with a brain tumor or paresis to rest.

Organic brain disease progresses slowly, with speech block, aphasia, memory defects, and acute bouts of confusion and disorientation, usually coming on at night, all indicating that the brain structure is disintegrating. Occasionally a convulsion, either generalized or Jacksonian (one-sided), is the first sign of a serious brain disease.

Diagnostic points: (1) Look for the early signs and symptoms listed above; (2) test the pupillary reflexes; (3) examine the knee jerks; (4) see if the patient can balance with his eyes closed (Romberg test); (5) have the retinae examined (or do it yourself) with the ophthalmoscope; (6) perform a spinal puncture and have the fluid examined by a competent pathologist (Wassermann test, cell count, gold curve); and (7) use the x-rays.

Arteriosclerotic disease of the brain is first signalled by *head "pressure," dizziness, fainting* spells, *buzzing in the ears* and flashes before the eyes, crying spells, great and painful *anxiety,* and morbid depression. There is often no mental deterioration. *Treatment:* Avoidance of tea, coffee, and alcohol; rest from physical and mental exertion for several months; mild sedatives, such as chloral hydrate, for anxiety and irritability; avoidance of large meals; mild exercise, such as walking, should be recommended; and, above all, the patient should be given something to keep him busy (occupational therapy).

General paresis (syphilitic paresis) is best treated by malaria or some other form of artificial fever.

Senile Dementia

Senile dementia appears after the age of 65, and the symptoms are: (1) gradual dulling of the higher mental functions; (2) restriction of activities to simple routines and established habits; and (3) living in the past. *Treatment* should not include any sudden and upsetting change in habits. All mental tensions should be avoided. Hyoscine may be given, in 1/200 gr. (0.32 mg.) doses twice daily, for muscular stiffness and rigidity. A diet rich in calcium and vitamin D should be used for those who have poor bony structures. Make sure that eye defects are corrected properly. Bronchitis should be treated with the "lung shrinker" prescription:

℞ Potassium iodide	Gm.	15
Fl. Ext. Grindelia	cc.	45
Tr. Lobelia	cc.	40
Tr. Gentian Comp. q.s. ad	cc.	120

Sig.: One teaspoonful every four hours.

Failing circulation may aggravate the mental picture. The judicious use of digitalis, for auricular fibrillation, may clear up a psychosis.

Do *not* use bromides, phenobarbital, or morphine. A quick-acting hypnotic, like Sodium Amytal, is advisable. The best sedative for old persons is vitamin B_1, 20 mg., and sodium nicotinate, 25 mg., by hypodermic injection, or 400 mg. of vitamin C, given orally just at bedtime. These can be repeated for several weeks.

Alcoholic cerebral degeneration: The patient is ugly at home and well behaved elsewhere. Examinations may reveal only exaggerated reflexes and a coarse tremor of the tongue and lips. A high-

*Synopsis of a talk before the Linn County Medical Society, at Cedar Rapids, Iowa, Dec. 11, 1941. Reported by R.L.G.

calory diet and vitamin B complex must be given.

Psychoneuroses

The symptoms of a psychoneurosis are: (1) The patient has an abnormal awareness of himself; (2) he is tense, restless, and wishes to talk at great length about himself; (3) he is hungry for assurance; (4) he is a very faithful patient; (5) he has insomnia, anorexia, restlessness, inability to concentrate, "pressure" in the head, throat, chest or epigastrium, attacks of fear, a sense of impending death, tremors, general weakness, excessive sweating, and palpitation.

Do not give drugs in these cases. You must act positive, after you have examined the patient thoroughly (with the help of specialists, if needed), as to your knowledge of his case. Find out from relatives or friends just what the patient is trying to forget or keep off his mind or what he avoids in open discussion. Explain to the patient the manner in which such repressed thoughts and worries convert themselves into terrifying physical symptoms, and thus gain his confidence.

Help the patient to face his distressing memories, instead of shying away from them, no matter how shameful they may be. When the revival of such bitter or unpleasant remembrance causes emotion, encourage him to "let it out." Finally, by fatherly advice and consolation, help him to readjust his attitude toward the troublesome situation.

Do not make a diagnosis of hyperthyroidism without *positive proof* (a definite fine tremor; *repeated* basal metabolism tests; *warm* hands and feet; a very good appetite; and improvement after rest, as contrasted to the psychoneurotic patient's morning fatigue).

True Psychoses

Melancholia is the only great problem in general practice. The patient is depressed; he has no hope and no interest in seeking help; all is lost; he will surely die; his intestines are turned to stone. Unlike the neurotic, he is not concerned about a cure; he does not wish to eat; he becomes constipated because he is too torpid to take care of his physiologic requirements; suicidal tendencies appear.

Treatment: Do not encourage such a patient to "look on the bright side." Keep away well-meaning relatives, friends, and ministers. Ignore the crying, moaning, or pacing the floor. Feed the patient a well-balanced diet; keep knives and other weapons away from him; give him Benzedrine Sulfate tablets, 10 mg., with breakfast and the midday meal. Metrazol convulsions may be curative.*

*Prefrontal lobotomy seems to be indicated in some cases like this.—Ed.

WORRY

Do not worry about the future. You will meet it, if need be, with the same reason that you now employ in your present affairs.—MARCUS AURELIUS.

ADVERTISING

Advertising is the education of the public as to who you are, where you are, and what you have to offer in the way of skill, talent, or commodity. The only man who should not advertise is the man who has nothing to offer the world in the way of commodity or service.—ELBERT HUBBARD.

EDUCATION FOR PLANNED PARENTHOOD

Regional, community, and class differentials in fertility are giving rise to problems of serious import. They make it difficult, if not impossible, to realize the ideal of reasonably equal educational opportunity; they promote the spread of an inferior cultural heritage and thereby tend to cancel out the benefits that accrue from our entire educational enterprise; they create an intense pressure of population on the resource structure of certain areas and in doing so give rise to problems if migration and education, nationwide in their significance; and they tend to create regional inequalities in economic and social opportunity which a democracy can scarcely tolerate.

The solutions to the problems raised by population change, like the solutions of other problems in a democracy, will be hammered out on the anvil of experience and settled in the forum of public opinion. To the end that these solutions may be reached with intelligence and restraint, it is essential that education for understanding the individual and social consequences of a program of planned parenthood be carried on vigorously in the schools and in programs of adult education.—Prof. NEWTON EDWARDS, in *Information Service*, Mar., 1942.

A Living for the Doctor

The Business of Medicine and the Art of Living

Physician, Be Happy

THE average person, once started out on a job or profession, has a feeling of inevitablity, of being in a rut, of enclosure in a limited field, out of which he can break only at the expense of giving up and starting anew.

Unlike most others, the physician is free to choose from many courses: He can locate in a small town or in a great city, in a farming area or amid large factories; he can practice alone or with a partner (the practice of medicine offers many advantages for partnerships); he can choose to stay in general practice, give part of his time to one field, or specialize; he can take a salaried position with the armed Services, the Veteran's Administration, the Indian Service, in industrial employment, and so on.

If he is ambitious, he can study and write, wherever he may be located; he can take inexpensive trips to clinical centers or expensive postgraduate courses. Medical libraries will loan books and magazines without charge, so that he can study without a large library.

Wherever he goes, he is reasonably assured of a livelihood, often a very good one. Wherever he goes or whatever branch of work he takes up, he has the enjoyment of working in a field that is fascinating, of honestly earning his money, of helping others.

I can hear the grumbles of protest, some sincere, some amused. Before the physician, or any man, can enjoy life he must know himself and what he actually desires in life.

Many of us have been taught to "Hitch your wagon to a star," or "It is nobler to aim high and fail than to hit a lower target." This drivel tends to make us impatient with any accomplishment short of that of a Mayo or Osler.

What do we really want? Are we willing to give up much of the leisure and casual, pointless enjoyment of life to attain outstanding professional or financial success?

Don't envy the other fellow! One eminent internist, who has a daily routine of classes, dispensaries, and patients, "relaxes" on Sunday mornings at a charity cardiac clinic, ruins his free evenings by traveling for miles to address small medical societies, and spends his "spare" time in being envious of his classmates who are enjoying a leisurely practice and friendships that can never be his.

What you must first learn is to distinguish between what you think you want and what you will actually be happy with. The price of prestige is high, the path lonely. Don't practice in a large city because you feel your ego is boosted. Don't specialize unless you feel an irresistible attraction for one type of practice. Don't practice in a small town just because it is easier to begin there.

Talk with men who have carried out the course you are thinking of, but don't believe everything they say. You can be happy—you *will* be happy if you spend ample time in considering what you would most like to do, regardless of your friends' opinions, finances, or your own inferiority complex, and then sticking to it!—R.L.G.

✦

Politics in the A.M.A.

A GOOD many physicians have long felt that there is too much politics in the A.M.A., but Oliver Garceau, instructor in government at Harvard University, says there is not enough, and it's all of one kind.*

Nobody likes to wash dirty linen in public, but Mr. Garceau suggests that the group in power seems to have considered any disagreement with its fiats as "dirty linen," and has buried it in the powerful reference committees of the House of Delegates.

His prescription for the cure of this "chronic disease" contains three ingredients:

1. More politicians in the organization, not less.
2. Abandonment of the present insistence that the Association shall have only one mind and one audible voice.
3. Organization of a two-party system in the Association, so that those who disagree with the

*"The Political Life of the American Medical Association." *Harvard University Press.* 1941. Price, $2.50.

present ruling group can express their disagreement openly and honorably, without fear of being cracked down upon.

These suggestions seem well worthy of serious consideration by those who have the true welfare of our great Association at heart.

G. B. L.

★ Notes and Abstracts ★

Reprehensible Medical English

1. "CASE" must not be used for "patient," nor "cure" for "treatment."

2. "Tubercular" means *"nodular";* "tuberculous" means "infected with the bacillus of tuberculosis."

3. "Cystoscope" is a *noun* and must not be used as any other part of speech.

4. It is possible to "operate a cotton-gin," *but it is not possible to "operate a patient"—nor his appendix.*

5. "Acute *appendicitis*" is common, but an appendix cannot be "acute."

6. "Acute abdomen" is beyond the pale.

7. "Pathology" means the "science of disease"; it is therefore absurd to speak of "pathology in the right lung."

8. "Positive serology" is the worst type of jargon; apparently "positive Wassermann reaction" is usually meant.

9. "Specific" and "luetic" are convenient to obscure meaning from patients' relatives, but "syphilitic" is better in writing for the medical profession.

10. It is incorrect to say the patient had "no temperature." One may say that there was "no elevation of temperature," but it is shorter to say there was "no fever."

11. "Shot" is perhaps the most abused and overworked word in medical literature. Shot is of lead.

12. Bad spelling is unpardonable, so a good dictionary is indispensable.

—*Jour. Med. Assn. of Ga.*

[Several additions may well be made to this list of verbal barbarisms, in connection with almost every one of the preceding paragraphs:

1. *Men* and *women* should not be called *"males"* and *"females,"* except, perhaps, in the autopsy room.

2. "Malignancy" is a *quality,* not an object. There is no such *thing* as "a malignancy," though the *quality* of malignancy may *develop* in a benign tumor.

3. The same is true of the *urethroscope,* the *proctoscope* and some other instruments; though we have not yet seen microscope and stethoscope used as verbs. The word, "x-rays," is also a *noun,* and should never be used as a verb.

5. Careful physicians *make* examinations and studies, not "do" them, as they sometimes say.

5. "Acute sinus" and "streptococcus throat" are common barbarisms of the same type.

7. To indicate a morbid process that has not been identified, we have the etymologically sound word, *pathosis* (see "Dorland's Dictionary"), which should be more widely used. In the same class is the misuse of the word, "dosage," which is also a science or study, as a synonym for *dose* or *doses.*

8. "Wassermann," "Kahn," "Shick," and some other such, are names of *men,* not things, and should be applied as *adjectives* to the *tests* they devised.

9. The same suggestion applies to other euphemisms, such as "Ca," "Tb," "P.A.," "G.P.," "D.T.," and the like.

11. The only "intravenous fluid" we know of is *blood.* This adjective is properly used only to describe a certain method of parenteral *injection* or *infusion.*

To illustrate the ridiculous extent to which the use of abbreviations has developed, try to translate the following case history (copied from the *Lancet.)*

"Father died of G.P.I. Mother of D.T.s. Previous history of Ts and As in childhood, also S.M.R. Scars of ops. for I.D.K. and L.I.H. Gyn. gives a history of a C.S. and later a D. and C., followed by S.V.H. K. J. present. W.R. negative both blood and C.S.F., so no Sy. Smear for G.C. has gone to V.D. Now suffering from P.U.O.; B.P. and B.S. normal. No P.A. No increase V.F. or V.R. No sign of T.B. or dip.; swab shows streps. Widal negative. V.D.H. mitral. I've done a P.V. and a P.R. The pro. says B.O. and P.U. today."

In medical writing, *no* abbreviations should be used except where some long word or series of words must appear *repeatedly,* in which case the *entire expression* should be written out the first time it is employed, and followed, in parentheses, by the abbreviation that is to be used subsequently, thus: "Phenolsulphonephthalein test (PSP test)."

We shall be glad to have our readers tell us what solecisms strike them most forcibly in the medical literature.—ED.]

✦

Progress or Retrogress?

PHYSICIANS can be divided into two great groups, those that are learning and those that are forgetting; those that each year know more, and those that each year know less. There seems to be no third group, those that are stationary.

A few physicians increase in knowledge from within and grow from their own doing. These are the innate investigators. The rank and file require outside help to grow and to progress. Books, meetings, contacts, discussions, teachers, are our armamentarium for progress. Like the "spring tonic" of past days, all of us need some of this medicine, at least annually, better if it comes more frequently. A large majority of physicians know their need and seek treatment.

Things in nature rarely are static; they increase or they decrease; they grow or they decay;

they progress or they retrogress. Man's education in many respects resembles things of nature; rarely is it static; when knowledge does not increase; almost always it decreases. Physicians should remember this and make every effort to keep out of the static state and on the side of increase, of growth, of progress.

Contact with colleagues eager to learn, listening to discussions by those capable of teaching, witnessing demonstrations and clinics, seeing scientific exhibits, lead to more reading and better observation of patients. Herein lies medical progress.—HENRY A. CHRISTIAN, M.D., F.A.C.P., in *Ann. Inst. Med.*

✦

The Problem of the Preferred Claim

"YOU may draw a draft on me through the Michell Bank, and I'll take it up as soon as I am notified," the out-of-town patient suggested.

"Gladly," Doctor Medico agreed.

When the Michell Bank notified the patient that the draft had arrived, he had enough to his credit to pay the draft several times, and gave the bank a check on itself to cover the amount of the draft.

"We will send that Doctor Medico our cashier's check to cover the draft," the Michell Bank decided; and the doctor received the cashier's check in due course.

"That's a very satisfactory sort of patient," the doctor assured himself; but when he glanced at the headlines in the local paper, he saw that the Michell Bank had just closed its doors.

"You're entitled to rank as a preferred creditor for the amount of your cashier's check," the doctor's lawyer assured him.

"Go ahead, then, and sue whoever has to be sued," the doctor ordered.

"If the patient, instead of paying the draft upon him by check, had used currency for the purpose, there can be no doubt that the receiver would hold the amount in trust for the doctor, because the total of cash, or its equivalent, which came into his hands would necessarily, or at all events presumptively, have been that much larger by reason of such payment," said Judge Enright in ruling in the doctor's favor.

M. L. H.

[This interesting series of legal problems is nearing its close, but if enough of our readers want to see it continued sufficiently strongly to write us to that effect (a post-card will do), we will try to make arrangements with the jurist who writes them to continue doing so.—ED.]

Medicine and the War*

THE weak spot in American Medicine is in its singleness of purpose. Its greatest danger lies in the exclusiveness of its devotion to scientific improvement and technical effectiveness.

Today, American Medicine's greatest danger lies in the possibility of refusing or failing to keep in mind medicine's fundamental concepts during a period of abnormal crisis.

The war in which we are engaged is as limitless as the farthermost reaches of the world in which we live. It is a war of ideologies. Our only "cause" is that of acknowledgment of the *sanctity of human personality.*

If we are to make progress this principle must be preserved and sanctified. The whole of men's concepts are in flux. This basic tenet may be lost or sacrificed unless we make a task of preserving it.

The form and the design of a post-war world will be determined by the steps taken now and during the period of the conflict to preserve intact the important elements of the principle for which the war is waged.

The medical profession now represents the only important group in the United States which, while harassed from within and without, has shown no slightest signs of capitulation or even of retreat.

On the basis of this fact, it has automatically placed itself in the position of an intellectual leadership of those individuals, groups, and institutions which seek to preserve the important elements of individual freedom and initiative and the principle of "Private Enterprise."

If we live up to this opportunity and the serious responsibility it entails, the physicians of this country can—while preserving the independence of American Medicine—most importantly and vitally serve their country during its period of crisis and greatest stress.

There would be no gain—there would be irretrievable loss—if the war is won and there is failure in taking steps to insure the peace. There must be no shadow of doubt as to our undertaking to establish the principles of "individual human right." In addition to its technical tasks, American Medicine must assume its fair share of this, the greatest single responsibility.

I think you have a fine journal in CLINICAL MEDICINE, and I wish you continued success.— C. V., M.D., Minn.

*Extracts from the brochure, "World Conflict: American Medicine and the N.P.C.," sent free on request to National Physicians' Committee, Pittsfield Bldg., Chicago, Ill.

THE UNITY OF SCIENCE

There is not an area of activity in which the world unity of science and learning cannot be illustrated. An American soldier, wounded on the battlefield in the Far East, owes his life to the Japanese scientist, Kitasato, who isolated the bacillus of tetanus. A Russian soldier, saved by a blood transfusion, is indebted to Landsteiner, an Austrian. A German soldier is shielded from typhoid fever with the help of a Russian, Methchnikoff. A Dutch marine in the East Indies is protected from malaria because of the experiments of an Italian, Grassi; while a British aviator in North Africa escapes death from surgical infection because a Frenchman, Pasteur, and a German, Koch, elaborated a new technic.—RAYMOND B. FOSDICK.

The Seminar

Our readers are cordially invited to submit fully worked up problems to the Seminar and to take part in the discussions of any or all problems. Discussions should reach this office by the 5th of the month following the appearance of the problem. Send your problems and discussions to The Seminar Dept. care CLINICAL MEDICINE, Waukegan, Ill.

Problem No. 3 (Medical)

Presented by John T. Mosley, M.D., Winnfield, La.

(See CLIN. MED., Mar., 1942, page 81)

RECAPITULATION: A 70-year old white man, who had, previous to his present illness, been active and in good health, came to me complaining bitterly of inability to sleep, due to extreme shortness of breath. His respiratory rate was 50 per minute and regular; blood pressure, 125/88; heart sounds, normal; pulse rate, 82 per minute and regular; temperature, 98.6° F.; hemoglobin, 70 percent; leukocytes, 8,800; and red cells 3,400,000. There was no edema, and a roentgenogram of his chest showed a heart of normal size and clear lung fields. There was a trace of albumin in the urine.

Some 36 hours after the office visit, the patient lapsed into a semi-comatose condition and developed Cheyne-Stokes breathing. Following treatment he regained his full mental faculties and Cheyne-Stokes breathing ceased, but some slight dyspnea still persisted.

Requirements: State your diagnosis and what further studies you would have made, and outline the therapeutic management of this case, *giving reasons.*

Discussion by L. G. Frith, M.D., South Bend, Ind.

Intracranial disease is the most common cause of coma in adults, so one would think first of *cerebral compression from hemorrhage.* In the absence of hypertension, pulmonary congestion, and a paroxysmal type of tachycardia, this could be ruled out.

The next most likely condition would be *uremia.* Is this a toxic retention from prostatic hypertrophy, with obstruction and acidosis, or an angiospastic ischemia of arteriosclerosis and asphyxial coma? If there is no evidence of urinary retention, no increase in urea, and no acidosis present, the probability is that this is a case of angiospastic or sclerotic uremia.

A more complete history as to the presence or absence of headaches, visual disturbances, gastrointestinal disorders, muscle spasms, twitchings or convulsions, mental apathy, or renal disease would help. The following, also, would be of assistance: Ophthalmoscopic examination, spinal puncture, a rectal examination, determination of the residual urine, the presence or absence of acidosis, a blood-urea determination, and a test of the concentrating power of the urine.

The salient features of treatment in this case would be rest in bed; fluid restriction (less than 1000 cc. daily); a salt-free, low-protein diet, with adequate multiple vitimin doses; lumbar puncture; respiratory stimulation or oxygen by nasal inhalation, and circulatory stimulation as needed; from 25 to 50 cc. of 50-percent sucrose solution intervenously, or venesection of from 300 to 500 cc., as required. Vasodilators, diuretics, and purgatives to be used with discretion, when indicated. From here on the treatment is that of arteriosclerosis, by moderation.

✦

Discussion by W. B. Palmer, M.D., Furman, Ala.

DR. PALMER

In the analysis of this problem, the dyspnea, Cheynes-Stokes breathing, and the red cell count of 3,400,000 call for consideration. Coma results from cortical dysfunction. Dyspnea is caused by a deficiency of oxygen and an accumulation of carbon dioxide in the blood, by which the motor centers of respiration are excited to increased activity.

Dyspnea acts somewhat like a regulator. It can be caused by some reflex condition; some impediment in the respiratory passages, even an embolus; some poison introduced into the body or formed internally by hepatic or renal disorders; and by cardiac insufficiency or other pathologic states. In addition to the bulbar form of dyspnea, there is the Cheynes-Stokes respiratory phenomenon caused by ischemia in the medulla oblongata or the kidneys, due to a localization of the arteriosclerotic process in either area.

Marked changes in one organ are not always followed by changes in other organs. The oxidizable products of metabolism, which accumulate in the blood on account of renal insufficiency, prey upon the oxygen stores of the blood and tissues, causing dyspnea and anemia. Although Goldblatt has shown that ligation of the renal artery in a dog is followed by ischemia and hypertension, the kidneys of aged people often show renal insufficiency without hypertension.

The blood count of this patient shows an anemic condition. The estimate of the hemoglobin is usually obtained by multiplying the first two figures of the number of erythrocytes by 2, which approximates the correct percentage in this case.*

The process of aging has received but scant attention. It seems to rest on physiologic or biologic more than on chronologic grounds. Senile changes may be progresssing in this patient, provided his ancestors did not reach advanced ages. It is difficult to estimate how much of the aging process

*This would not work out in the pernicious or severe hypochromic anemias.—ED.

rests on heredity and how much on nurture. Home training in kindred families is often similar and the emotions may be developed at the expense of reason, hence poise is lost. This condition makes extra demands on the nervous system, with resulting upsurges in vascular tension. Call it normal or abnormal, as you may choose, arteriosclerosis and a failing heart accompany what scientists call old age.

The question is asked what other examinations should have been made. Diagnosis always demands first consideration, and often that has to be made at the bedside without laboratory equipment. The history is *important*. As no report was made about the reflexes, there must have been nothing significant along this line.

It is necessary to consider renal insufficiency. As there were nervousness and dyspnea prior to the onset of coma, there was time to find out the specific gravity of the urine, with 24-hour specimens for three days. If the patient drank a reasonable amount of water, a low specific gravity would indicate urea retention and also account for the trace of albumin. An estimation of the non-protein nitrogen and the uric acid of the blood was essential. The phenolsulphonephthalein and the urea-clearance tests would have aided materially. In case of marked urea retention, the next step would have been to ascertain the cause. In such cases, examine the prostate by rectum, to see if any positive information can be gained; also introduce a soft-rubber catheter, to see if there is any residual urine, letting the urine come out slowly for fear of inducing a hemorrhage.

If there is azotemia, this can come from extra-urinary or intra-urinary causes. Among the extra-urinary causes, some often reside in the gastro-intestinal tract and other organs, such as hemorrhage, starvation, dehydration, hepatic disorders, a decompensating heart; and skin lesions, especially burns. I was called to see a Negro, age 13, in a semicomatose condition. His entire body was covered with lesions of the itch mite. He had a high blood urea, and notwithstanding the immediate treatment of the scabies, and elimination from the emunctories, the deepening coma was followed by death.

Among the intra-urinary causes is a symptomless enlarged prostate, with residual urine. Serious damage to the kidney can result without any rise in blood pressure and little if any albumin in the urine, as is often true also of the aging kidney.

Let us pay more attention to *gerontology*. Insist on *real* periodic examinations. There are many pediatricians but few if any "geriatricians." We have not even coined a word for one who specializes on this coming branch of medicine. The field is still open for the general practitioner. We should have some of the spirit of the ancestor-worshipping nations and be grateful for those who have lived for us.

✦

Discussion by L. E. Williams, M.D., Kansas City, Mo.

The history given by this patient is typical of those given by many nephritic and hypertensive patients, many of whom feel that they are in good health and come to the physician only because of shortness of breath. The physician sees patients with marked cardiac decompensation, and patients with a systolic blood pressure above 200, who still insist that they are all right "If only I could get my breath."

Dyspnea is the cry of the body for oxygen. This demand may be due to mechanical causes; a lack of oxygen in the air; the inability of the body to obtain the oxygen present in the air; the inability of the blood cells to carry a sufficient amount of oxygen, as in anemia; to certain poisons in the blood stimulating the respiratory center; an increase in body metabolism, as in acute infections; and to uremia. Since the causes of dyspnea are numerous and at times obscure, the diagnosis is not always easy.

The anamnesis, the physical findings, and the x-ray study seem to exclude such causes as a foreign body in the trachea or lungs, emphysema, aneurysm or tumor pressure, pleural effusion, bronchial asthma, and acute infections. The patient has a mild anemia which, no doubt, plays a part in his present condition. The mere absence of edema does not mitigate against cardiac decompensation, for pulmonary edema, which decreases the vital capacity of the lungs and interferes with the carbon dioxide oxygen exchange, may accompany myocardial deficiency without edema.

While the age of the patient causes one to suspect a cardio-renal condition, the blood pressure and the x-ray findings tend to rule out this condition. This, however, does not necessarily follow, for it is entirely possible that this patient may have been a victim of hypertension and, due to myocardial weakness, the blood pressure fell and caused his dyspnea. I have known this to occur in hypertensive heart disease and its appearance is an ill omen. The albuminuria, the anemia, and dyspnea are on the side of chronic nephritis. Pressure on the diaphragm from below is excluded by the absence of any mention of abdominal distension in the physical findings.

Chronic nephritis is usually accompanied by hypertension and cardiac hypertrophy, but not always. Many patients with chronic nephritis go for years without developing edema, but slowly develop a moderate degree of anemia, gradually grow weaker, become restless, and suffer nocturnal attacks of dyspnea, which finally send them to a physician. Albumin and casts are not always found in the urine. This type of patient usually has nitrogen retention instead of chloride retention, thus accounting for the lack of edema.

This patient developed Cheynes-Stokes respiration, so we must explore the causes of this condition. As some chronic nephritic patients have an exceedingly high renal threshold for sugar, the possibility of diabetes mellitus should not be overlooked. We should also ascertain whether the patient, in self-medication, used any drugs which may produce this symptom. If morphine had been administered, it should be eliminated as a cause. Acute infections have already been excluded as an etiologic factor. Brain lesions cannot be excluded, but they are not probable from the data before us. Chronic heart failure has not been excluded, but the preponderance of evidence points to chronic nephritis.

Additional laboratory examination suggested: (1) A blood Wassermann test; (2) a blood-chemistry study; (3) a test of the carbon dioxide combining power of the blood plasma; (4) an electrocardiogram; and (5) ophthalmoscopic examination of ocular fundus.

My tentative diagnosis is *chronic nephritis and uremia*. The *prognosis* is guarded. The *treatment* is mainly symptomatic and about as follows:

Keep the patient warm; give magnesium sulphate or sodium phosphate as a laxative; morphine,

Pantopon, sodium bromide, or phenobarbital as sedatives; atrophine or tincture of belladonna for pulmonary congestion; sodium bicarbonate; and adrenalin may be used for the relief of the dyspnea. Give plenty of fluids. Assuming that there is nitrogen retention, the protein foods should be restricted.

✦

Discussion by W. E. McKinley, M.D., Jewell, Kansas

DR. MCKINLEY

The medical history in this case is so vague, incomplete, and lacking in essential detail, that to attempt to make an intelligent diagnosis is very much like taking a "leap in the dark," excepting to that physician who has solved the problem and knows: to him no further history is needed.

In a man 70 years of age, whose previous medical history is negative, but who had all the symptoms enumerated in the present history, I would suspect some glycogenic disturbance or some drug narcosis. I would ask for a blood-sugar test, and a urinalysis *to be made immediately.*

This man is undoubtedly asthenic in type (his weight is not stated), anemic, and has a moderately low blood pressure. His trouble might be a mild form of arteriosclerosis associated with *myocardial degeneration,* in which, possibly, only a small portion of the heart muscle may be involved, with fatty degeneration associated with granular kidney or renal changes resulting from arteriosclerosis. The myocardial symptoms may vary in intensity from mild to severe dyspnea, orthopnea, and pulmonary congestion, with a small, feeble or rapid and irregular pulse, resulting in coma, dyspnea, or Cheynes-Stokes breathing. We should not, however, forget that degenerative changes may take place in the medulla oblongata, secondarily to arteriosclerosis, producing dyspnea and coma. Also Addison's disease may cause dyspnea and Cheynes-Stokes respiration.

✦

Solution by Dr. Mosley

The patient was comatose and too ill to swallow, so he was given 500 cc. of a 10-percent solution of dextrose in distilled water, intravenously, and intramuscular injections of 1 cc. (15 units) of injectable liver extract and 1 cc. (100 mg.) of thiamine hydrochloride. The two latter were repeated at 8-hour intervals.

Two hours after the initial infusion and injections of liver and thiamine, he regained consciousness and began to take nourishment by mouth. He was then given two teaspoonfuls of Citrocarbonate every three hours until his urine showed alkalinization. His diet was unrestricted, except for salt and proteins. A subsequent phenolsulphonephthalein test showed only 10 percent excretion.

This was definitely a case of *uremia,* and the extreme dyspnea is accounted for, by some investigators, as due to acidosis.

The exact mechanism of the action of the liver extract and thiamine hydrochloride in this case is not known and is not original with me, but these injections will, in the majority of cases, bring the patient out of the mental torpor and alleviate the Cheyne-Stokes breathing in such cases; however, there is apt to be some lapse after initial improvement.

✦

Problem No. 5 (Medical)

Presented by J. A. Simpson, M.D., F.I.C.S., Laredo, Texas

A MAN, 68 years old, came to me complaining of a rather severe, dry cough, excited by smoke (especially that of burned grease), which he dates from a severe gassing in 1918, during World War No. I, and occasional attacks, during the past four years, of tachycardia, which make it necessary for him to sit or lie down. He was sleeping fairly well, had little appetite (though he had not lost weight recently) and occasional mild dyspepsia, and was moderately constipated. Before the War he had had arthritis, which was aggravated after his overseas experience, and afterward was told that he had chronic bronchitis. About a year before I saw him he had had sugar in his urine for about two months, after which it disappeared.

Examination: His height was 6 feet 1 inch; weight, 214 pounds (the same as in 1918); temperature, normal; pulse rate, 74; blood pressure, 128/85; heart response to exercise, good, but the organ was enlarged and a soft, blowing or swishing murmur was heard over the sternum when he stooped forward; vision, hearing, and eye-grounds, normal; urine, normal; his lungs showed slight evidence of chronic bronchitis, and there were no tubercle bacilli in his sputum. A *roentgenogram* showed the heart enlarged, more on the right; an *electrocardiogram* showed slight evidence of myocarditis. During an attack of tachycardia, his pulse rate is exactly twice as fast as it was just previously. Pressure on the vagus nerve will sometimes relieve these attacks, and the only drug that has been consistently helpful has been quinidine.

Requirements: State your tentative diagnosis, *with reasons,* and what further studies *you* would make. Outline the management of this case, *in detail.*

FRIENDSHIP

The essence of friendship is sympathy and understanding, and tolerance and unselfishness are essential to its strength. To be real, it must represent a mutual desire to be helpful.—THOS. J. WATSON, *in* Think.

✦

TYPHUS

In its tragic relationship to mankind, the disease typhus is second to none—not even to plague or cholera. In most major wars of the past, more persons have succumbed to typhus than have fallen in battle.—HANS ZINSSER.

Clinical Notes and Abstracts

Medico-Military Notes

Army Needs 24,000 Doctors in 1942

COL. GEORGE F. LULL, chief of the personnel division, U. S. Army Medical Corps, has stated that the Army will need about 24,000 physicians this year, in addition to about 5,000 dentists; 1,000 veterinarians; 500 sanitary engineers; and 2,000 medical administrative officers.

Of the 3,600 medical reserve officers, 1,500 are still interns; 1,700 are deferred for civilian service; and 104 are colonels and lieutenant colonels (difficult to place in a general program), leaving only 298 now available for service with combat units.

Col. Lull suggested that it might be necessary to draft physicians in the 27 to 36 age group, of whom there are about 50,000, with probably 30,000 fit for military service.—*Victor News,* Mar., 1942.

✦

Yellow Fever Vaccine

IN 1941, the Rockefeller Foundation distributed 1,938,300 doses of yellow fever vaccine to the U. S. Army, Navy, Public Health Service, and other American health agencies; 1,972,380 doses to Africa; and 350,000 doses to India, Brazil, and Singapore. The U. S. Army and Navy have asked the foundation to supply them with several million doses in 1942.

✦

The Navy will eat 1,095,900,000 pounds of food this year, according to recent estimates.—*Sci. News Letter,* Mar. 21, 1942.

✦

Streamlined College Course for Pilots

STREAMLINING of college courses in mathematics, physics, astronomy, and weather science to offer pre-training for the 450,000 new aviation personnel required this year and next for the expanded aviation program, is recommended in the report of a committee appointed by the Secretary of War.

It is important to start the courses at once in as many institutions as possible, partly to prepare men for the air service as rapidly as possible and partly to gain experience for a greatly increased effort. It is likely that many changes and improvements will be made in present plans under the teachings of experience.

The new college course as outlined by the committee can be telescoped into 11 or 12 weeks for students who have had advanced high school algebra and some solid geometry, the committee believes.

Emphasis throughout is on practical applications and manipulation. Theory is kept to the minimum necessary for understanding of the work.—*Science News Letter,* Mar. 14, 1942.

✦

Health Conditions in World Wars I and II

HEALTH conditions have changed materially in the twenty-five years since World War I.

The diseases of childhood and infancy—measles, scarlet fever, whooping cough, diphtheria, and diarrhea and enteritis—have been virtually eliminated as causes of death within this period. This means, not only that there has been a very substantial saving of life at these early ages, but also that many of our young people living today have been spared the disabling sequelae of these diseases. In consequence of this situation, thousands are now available for war service who, under former conditions, would have been rejected.

Syphilis is another disease concentrated mainly in youth and middle life, that unfortunately tends to spread in times of war. The mortality from syphilis among Metropolitan's industrial policyholders is less than half of what it was in 1917, and the outlook for its control in this war is much better than it was twenty-five years ago.

Calamitous, in the last war, were our losses from influenza and pneumonia. The first of these fluctuates so widely in prevalence and virulence from year to year that it is impossible to estimate the likelihood of a serious visitation within the next few years. Pneumonia, thanks to the new chemotherapy, has lost much of its former terror. The death rate from this cause among industrial policyholders has dropped more than 82 percent since 1917.

In view of the rapidly increasing industrialization of the Nation and the fact that many defense workers are for the first time coming in contact

with machinery and other hazards of war work, we can hardly hope to escape an increase in fatal accidents in the near future. But during the years since 1917 there have been such marked advances in industrial hygiene and in accident prevention, that surely many lives and countless working days will be saved that would have been lost under the working conditions prevailing at the time of the last war.—*Statistical Bull.*, Metropolitan Life Ins. Co., Mar., 1942.

✦

Draft Statistics

ACCORDING to present indications, of the men registered for the draft in the 20-21 age group, 1¼ million will be selected and ½ million not selected; in the 21-35 group, 1 million selected and 16½ millions not; in the 35-44 group, ½ million selected and 7 million not.

Out of 20 draftees selected, 10 will be accepted and 10 rejected because of ill health. Of these latter 10, two (2) will be rejected because of bad teeth; 1½ for bad eyes; ½ for bad ears; 1 for a bad heart; ½ for venereal disease; and 4½ for other disorders.—*Sci. News Letter*, Mar. 14, 1942.

Blood Donations

THE American Red Cross reports that they have been requested by the Army and Navy to deliver 380,000 units of blood plasma by July 1, 1942, and 550,000 units during the following year. This program will require more than a million donors, of which about 201,600 have responded to the call up to the end of March, 1942. So it looks as if the estimated need will be met.

Red Cross blood donor centers are now in operation in New York City, Philadelphia, Baltimore, Buffalo, Rochester, N. Y., Indianapolis, Detroit, Pittsburgh, St. Louis, Boston, Milwaukee, Cleveland, Chicago, San Francisco, Los Angeles, Cincinnati, Washington, D. C., and Brooklyn.

The value of blood plasma in treating burns, wounds, and shock has been amply demonstrated.

✦

The U. S. Army Quartermaster Corps has introduced *substitutes* for 800 articles previously used. —*Sci. News Letter*, Feb. 28, 1942.

Care of the Premature Infant*

A PREMATURE baby should have a simple type of heated bed for use in the home or hospital. Its use will prevent illness, especially respiratory tract infections.

Resuscitation: The baby should be placed in a warm bath, and regular, gentle compression of the chest carried out. Oxygen is given for cyanosis. A catheter is used to suck out mucus from the pharynx.

All premature infants should be watched carefully for *cyanotic attacks* during the first few days of life, since such attacks may develop suddenly and without warning. They are usually caused by defective pulmonary circulation, atelectasis, cardiac lesions, or intracranial hemorrhage (don't forget tongue swallowing), and abdominal distention. Oxygen therapy is the best single method of treatment.

Tying the cord: If the cord is not tied until the pulsation in it disappears, the infant will receive from 30 to 60 cc. of blood from the placenta (equivalent to a transfusion), during the 1 to 5 minutes following delivery. The delicate cord must be tied *carefully*, to prevent severing it with the ligature, and far enough from the skin to allow for a second ligation, if needed.

Breast milk is the best food for the premature infant, but over-feeding is the most common mistake in treating prematures. Just enough food should be given so that the baby gains weight, rather than feeding as much as possible. "Minimum feeding" prevents abdominal distention, dyspnea and cyanosis, and diarrhea, and decreases vomiting.

Infants too weak to nurse at the breast: When feedings are well taken, and if syncope or cyanosis has not developed, these infants can be fed without being removed from the heated bed. Food may be given slowly with a medicine dropper, over the tip of which a piece of soft rubber tubing has been placed.

Technic of gavage: Catheter feeding is recommended, especially if the swallowing reflexes are poorly developed. Circles should be drawn, with indelible ink, four and five inches above the tip of a No. 8 or 10 French catheter. As a funnel, the glass barrel of a syringe can be used. The infant should lie flat on its back, either in or out of bed, with the head in a straight line facing upward. The barrel should be empty when the catheter is passed. Any air in the stomach should be allowed to escape after the tube is passed. The infant should be fed slowly, with the minimum elevation of the syringe barrel which will cause the milk to flow. At the end of feeding, the catheter must be *firmly compressed*, in order to prevent aspiration of milk into the larynx as the tube is withdrawn.

Feeding: The capacity of a baby's stomach, at 28 weeks, is 10 cc.; at 32 weeks, 18 cc.; at 36 weeks, 25 cc.; and at 40 weeks, 45 cc. After breast-milk feeding, the stomach is empty in from 1½ to 2 hours; after artificial feeding, a much longer time is required.

Babies should be fed according to this schedule:

13th hour, water	2 to 6 cc.
16th hour, water	2 to 6 cc.
18th hour, breast milk	2 to 6 cc.
20th hour, water	2 to 10 cc.
22nd hour, breast milk	4 to 10 cc.
24th hour, water	2 to 10 cc.

If this can not be done, give a hypodermoclysis of physiologic saline, Ringer's, or Hartmann's solution, in amounts of from 10 to 60 cc., twice daily, at body temperature. All small infants receive 8 cc. of blood, intramuscularly, at least once. Vitamin K is given if any type of hemorrhage appears; if it is not available, human blood is given every 12 hours, in doses of from 10 to 15 cc.

Vitamins A, B, C, and D are fed to infants between the second and fourth weeks of life, in doses *four times as large* as those needed by the full-term infant. Raw egg yolk is added to the diet, in the proportion of one egg to a quart of milk, for iron requirements.

*J. Iowa St. M. Soc., Dec., 1940.

Ultra-violet therapy: As early as the third week, infants should be exposed to ultraviolet rays for 15 seconds daily. The exposures are gradually increased, up to two-minutes three times weekly. Overexposure may result in irritability, vomiting, and fever.

In cyanosis, syncope and other symptoms of cardiac and respiratory failure, one or more of these measures should be instituted: Inhalation of aromatic spirits of ammonia, one or two drops on gauze, held before the nose; 0.11 cc. of Adrenalin (epinephrine) hydrochloride solution, 1:1000, hypodermically, which may be repeated every hour and then less frequently over a period of one or more days. Camphor, caffeine, atropine, and other stimulants are not much help.

Diarrhea: Physiologic saline solution is given, subcutaneously, to the baby with diarrhea, at from 4- to 6-hour intervals, for 24 hours, and *nothing* is given by mouth. The infant is then fed every 3 hours with from 1 to 2 drams (3 to 8 cc.) of one-half skimmed lactic acid milk and one-half breast milk or dilute artificial feeding (boiled skim or whole milk, or condensed milk), to which Casec is added to increase the protein content. Feedings are increased by 1 dram as the reaction improves.

JULIUS HESS, M.D.

Chicago, Ill.

✦

Prostate Extract in Prostatism

CONTINUED clinical studies with an extract of prostate gland* gave us excellent results in 80 percent of 40 cases of benign prostatic hypertrophy.

In a previous study (*Medical Record,* December 4th, 1940), we reported favorably on the use of the extract in chronic prostatitis, and feel that this preparation is worthy of consideration as a therapeutic measure in the management of chronic prostatitis and benign prostatic hypertrophy.

Employing from 8 to 40 cc. intramuscularly, in divided doses over varying periods of time (usually 2 cc. every three days), symptoms such as urinary frequency, tenesmus, backache, and dysuria were completely relieved in most instances. DRS. S. A. SAVITZ and SAMUEL CHARTOCK, in *Urol. & Cutan. Rev.,* Jan., 1942.

*Isotonic extract of beef prostate is marketed under the name of Ampacoids Prostate, and reprints of the studies referred to may be obtained by writing directly to the manufacturers, Reed & Carnrick, Jersey City, New Jersey.

✦

An Inexpensive Obstetric Pad

ALL physicians who attend deliveries in the home have need of an absorbent pad for use under the patient's hips. The usual commercial pads are effective but expensive.

A very effective pad, which will retain all the amniotic liquid and blood from an ordinary delivery, can be made up from bread wrappers, gauze, and cellucotton.

The bread wrappers are laid out so that there are two or three thicknesses of the waxed paper covering an area of 1 foot by 1½ feet (or whatever is most convenient). A section of cellucotton is cut to fit and placed over the bread papers, and a single thickness of gauze is placed over the cellucotton. The edges of the pad are then sewed together roughly; it is wrapped in a small sheet and autoclaved in a steam pressure cooker (20 pounds for 20 minutes); marked with crayon; and stored until needed.

Cellucotton can be purchased inexpensively in large rolls, the bread wrappers can be obtained at home or hospital and the gauze is cut from the usual large roll.

Such a pad may be also used during dilatation and curettage, cesarean section, or to protect the bed linen used by puerperal patients or those with drainage of urine or pus.

R. L. GORRELL, M.D.

Clarion, Ia.

✦

Abdominal Allergic Reactions: Symptoms and Diagnosis

Stomach and Intestinal Tract

1. *Acute attack:* Hives appear all along points of contact; the lips swell; the esophagus becomes edematous; *vomiting* occurs, with or without *abdominal pain* due to swelling of the gastric mucosa. Intussusception or intestinal obstruction may be mimicked, especially by persistent vomiting in babies.

2. *Recurrent attacks: Anorexia, flatulence, indefinite abdominal distress or pains, and peptic ulcer symptoms appear.* If the patient is allergic to milk, the symptoms will be aggravated by the Sippy milk diet.

Cyclic vomiting in children is frequently of allergic origin.

Intestinal Tract

1. *Acute: Violent diarrhea,* sometimes *bloody,* may follow a few hours after the ingestion of some food to which the patient is sensitized. *Intestinal obstruction* may be mimicked, due to great edema of the intestinal wall. The edematous, contracted bowel may be palpable in very thin persons. The swelling disappears after injection of adrenalin (epinephrin).

Acute *abdominal pain, vomiting,* and *rigidity* may simulate acute appendicitis or cholecystitis. If an operation is performed, swelling will be found, but no redness of the appendix, gallbladder wall, parietal peritoneum, or a portion of the intestine.

2. *Chronic or recurrent:* Recurring pains and tenderness, which change their position in the abdomen, appear; also anorexia, constipation alternating with diarrhea, or "abdominal neurasthenia."

3. *Colon:* The spasm of smooth muscle, edema, and hypersecretion of the mucous glands result in *"mucous colitis."* Colonic polypi and ulcerative colitis may be secondary complications.

Gallbladder

1. Gallbladder symptoms may appear when an allergenic food is eaten. Careful x-ray studies show a hyperactive gallbladder wall and *colic,* when the food is taken.

Kidney and Bladder

1. *Acute nephritis* and *hematuria* may occur during serum sickness or reaction.

2. *Recurrent "pyelitis" and "cystitis": Bladder pain and tenesmus* are common allergic symptoms, but no blood or pus is found in the urine, unless secondary infection has occurred.

Uterus and Vulva

1. Dysmenorrhea and menorrhagia.
2. Irritation and excoriation of the vulva.

The most important factor in the diagnosis of abdominal allergy is the recognition that such a condition may exist, and that *it can simulate any known acute or chronic abdominal condition.* It should be suspected if asthma, hives, migraine, hay fever, or eczema are found in the family or personal history.

Treatment: If the question of an allergic reaction comes up during the differential diagnosis of an acute abdominal condition, give an injection of epinephrin, 1:1000 (5 to 10 drops), hypodermically. Prompt relief indicates that a surgical condition is *not* present and that allergy is the cause. In chronic conditions, use skin tests and elimination diets. The blood-cell count often shows eosinophilia.—T. W. CLARKE, M.D., in *N.Y.St.J.M.*, Aug. 15, 1941.

✦

Ammonium Chloride in Dysmenorrhea

THE headache, emotional instability, irritability, abdominal distention, nausea, vomiting, pruritus, and swelling of the vulva occurring premenstrually, are relieved by the use of 1 Gm. (15 gr.) of ammonium chloride taken three times daily for 10 or 12 days before the expected onset of menstruation. Many of these patients do not have their usual gain in weight during the week preceding menstruation. Apparently the symptoms mentioned are due to water retention in the tissues. No salt, sodium bicarbonate, or other sodium-containing preparation should be used during the time.—J. P. GREENHILL, M.D., in *J.A.M.A.*, Aug. 16, 1941.

✦

Treatment of Acidosis and Alkalosis

THE intravenous injection of sodium chloride solution will practically always repair any defect of the plasma which can be called acidosis, alkalosis, or dehydration. In severe acidosis, sodium lactate solution (Hartman's or Ringer's solution, which can be obtained from Abbott Laboratories) may be more advantageous. The intravenous injection of sodium bicarbonate solution should be carried out cautiously.

Do not give dextrose solution if the patient is dehydrated, as there is no salt in it to hold water in the body, and the dextrose is oxidized to carbon dioxide and water. Dextrose solution is ideal to use for kidney failure and in ketosis.—L. C. REID, M.D., in *Anes. & Anal.*, Nov.-Dec., 1941.

✦

Feeding After Operation

FROM 6 to 18 hours after an operation, when vomiting (if any) has ceased, have the patient void or catheterize him, and then give 1 Gm. of the dye *methylene blue,* in capsules, by mouth, with as much water as he can take with comfort and small amounts repeatedly for the next 3 hours, after which he is asked to void. If he cannot do so he is catheterized at the end of 5 hours. If the urine is greenish-blue, it is safe to give him a rather generous diet.—DRS. B. I. GOLDEN and J. E. MARTIN, in *A. J. Surg.*, Nov., 1941.

Signs of Eye Trouble in Children

Behavior

1. Attempts to brush away blur; rubs eyes frequently; frowns.
2. Stumbles frequently or trips over small objects.
3. Blinks more than usual, cries often, or is irritable when doing close work.
4. Holds book or small playthings close to eyes.
5. Shuts or covers one eye; tilts or thrusts head forward when looking at objects.
6. Has difficulty in reading or in other school work requiring close use of the eyes.
7. Is uninterested in distant objects or unable to participate in games such as playing ball.
8. Holds body tense or screws up face either for distant or for close work.
9. Is sensitive to light.
10. Is unable to distinguish colors.

Appearance

Red-rimmed, encrusted, or swollen eyelids.
Repeated sties.
Watery or red eyes.
Crossed eyes.

Complaints

Dizziness
Headaches
Nausea
following close eye work.
Blurred or double vision—
National Society for the Prevention of Blindness.

✦

Ischemic Contracture Following Fracture

ANY fracture may be followed by ischemic contracture, but those around the elbow, wrist, and ankle are especially liable to this serious, permanent deformity. In injuries of the elbow in children, the physician should never leave the patient unless the radial pulse is easily felt and the hand is warm, of good colour, and free from pain. He should be notified at once if a weak or absent pulse, pallor, or pain appears, as the ischemia may leave permanent damage if allowed to persist more than an hour. Several incisions must be made into the deep fascia to relieve the pressure of the hematoma.—G. R. GIRDLESTON, F.R.C.S., in *Brit. Med. J.*, Feb. 22, 1941.

✦

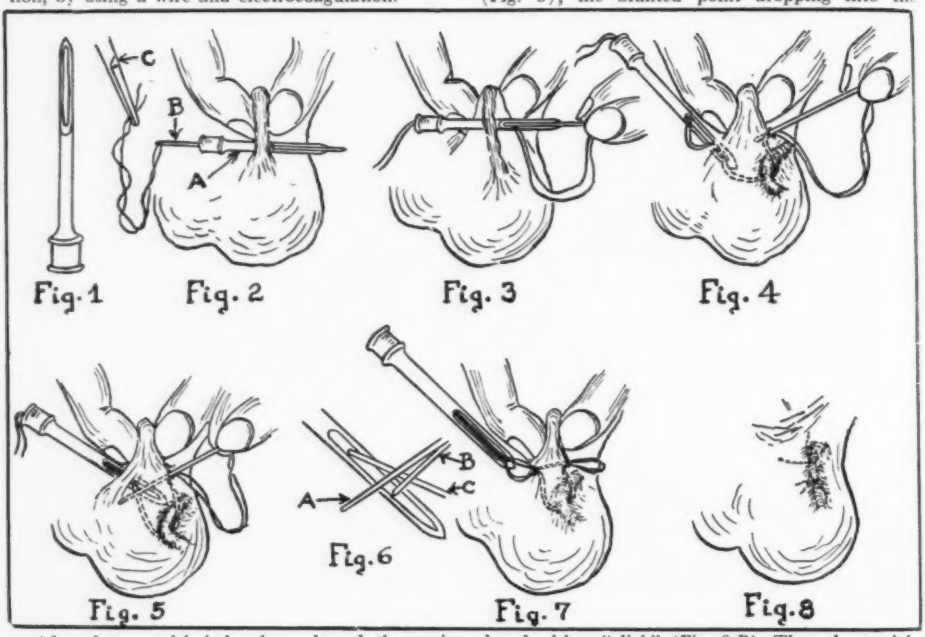
Pregnancy with Uterine Fibroid

THE *presence of a fibroid tumor of the uterus does not prevent pregnancy or nullify its successful conclusion.* The pregnant patient with a fibroid uterus is more liable to have a *complicated* pregnancy or delivery if the fibroid is large or if it has produced definite symptoms. *Pain and tenderness during pregnancy presage trouble.* Complications are rarely sudden in onset, however, and never severe.—G. G. THOMPSON, M.D., in *West. J. Surg., Ob. & Gyn.*, Feb., 1942.

Expectant treatment should be followed when fibroids complicate pregnancy. *A fibroid does not enlarge during pregnancy,* though it is more prominent because it is edematous and is forced toward the peritoneal cavity by the uterine muscle fibers. *Involution will occur after delivery.*—F. W. LYNCH, M.D., in *West. J. Surg., Ob. & Gyn.*, Feb. 1942.

Vasoligation Without Incision*

A REVIEW of the literature reveals that no method of vaso-transection without scrotal incision has been introduced. Here is an original method, by which vasoligation without incision may be accomplished, and which also permits vasotransection, by using a wire and electrocoagulation.



After the scrotal hair has been shaved, the penis is held against the abdomen by means of adhesive tape and the area is draped with sterile towels. The skin of the scrotum is covered for 5 minutes with gauze saturated with 1:5000 bichloride of mercury solution. The vas is then caught beneath the scrotal skin between the thumb and forefinger, *care being taken not to include other structures of the cord.*

Avoiding any visible scrotal vessels, we then inject a few drops of 1-percent Novocain (procaine) solution into the scrotum beneath the suspended vas, *passing the needle through the scrotum during injection.* A 15-gage intravenous needle, the bevel of which has been extended to about half the length of the shaft (see Fig. 1, and Fig. 2-A), is then slipped over the point of the protruding hypodermic needle and thrust through the anesthetized scrotal tissues beneath the vas as the hypodermic needle is withdrawn. Approximately 60 cm. of No. 5 black silk thread, on a 2½ inch straight needle, the point of which has been blunted (Fig. 2-B), is then passed through the lumen of the large needle. A small hemostat (Fig. 2-C) is attached to the free ends of the thread and approximately 20 cm. of the doubled thread are drawn through the beveled needle.

The blunted end of the straight needle is then introduced into the protruding bevelled end of the intravenous needle for a short distance (Fig. 3) and the latter, carrying the straight needle, is drawn into the scrotal cavity where the points of each are separated and depressed. Slight traction is applied to the testicle, allowing the vas, with the double thread beneath it, to drop away from the needle (Fig. 4).

With the needles at right angles, still within the scrotal cavity, the straight needle is drawn across the extended bevel of the intravenous needle (Fig. 5), the blunted point dropping into the bevel with a "click" (Fig. 6-B). Then the straight needle is guided up the bevel and through the lumen of the intravenous needle (Fig. 6-C). With the point of the one still within the other, the needles are withdrawn from the scrotum (Fig. 7) and the loop of thread protruding from the second puncture is pulled into the scrotum, thus leaving a double loop of thread around the vas. The two strands of thread around the vas are separated, the lower one is tied, and the ends cut short, after which gentle traction is applied to the testicle and the knot drops easily into the scrotum. The traction is maintained, and the second loop having been tied in the same manner, the knot is likewise allowed to retract into the scrotum. Thus the vas, free in the scrotum, is doubly ligated, the 2 knots being approximately 1 cm. apart (Fig. 8). Collodion is applied to the puncture wounds.

By these methods we have performed 11 vasoligations, 18 vasotransections, and 5 vasoligations followed by vasotransection. Our results in these 34 cases have been gratifying, since epididymitis has not followed preoperative catheter drainage or subsequent prostatic operation in any instance. The complications have been 1 small superficial scrotal hematoma and 1 small abscess about a silk suture following vasoligation, which disappeared when the suture was removed through the puncture wound.

WILLIAM L. WHITE, M.D.
ROGER A. WAY, M.D.
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* *Journ. of Urol.*, May, 1941.

Chronic Mastitis

THE term, chronic mastitis, may roughly be used to describe pain or lumpiness in the breast, not due to bacterial inflammation, a new growth, or fat necrosis. Slight periodic pain in the breast and lumpiness sufficient to distinguish the breast from its surrounding subcutaneous tissue are commonly encountered among women who do not complain of their breasts. Microscopic studies indicate that *there is no definite distinction between the normal breast and the breast affected with chronic mastitis.* The more nervous and unstable women complain of pain, when the phlegmatic ones do not.

Treatment: Testosterone definitely relieves pain, but may cause masculinization. Estrogenic hormone must be used in dangerously large doses to obtain relief. Pregnancy cured a number of cases. Diathermy will temporarily alleviate the pain.—H. J. ATKINS, M.D., in *Lancet* (London), Oct. 5, 1940.

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Delayed Anastamosis Following Vasectomy

A VASECTOMY was performed upon a man of 38 years, because it was considered dangerous for his wife to have another child. Three months later, no spermatozoa were found in his ejaculate and I pronounced him permanently sterile.

Five months after the operation the patient's wife became pregnant, and his semen showed large numbers of motile spermatozoa. I have never encountered such an occurrence, following vasectomy, where sperms had entirely disappeared from the semen.

My procedure, in more than 200 cases, has been to make a small scrotal incision over each vas, under local anesthesia; resect a ¾ inch piece from each vas, leaving the lower end open to prevent back pressure and crushing the upper end with forceps, but not ligating it. This has been successful in nearly all cases. To be on the safe side, I now cauterize the crushed upper end of the vas with pure phenol, to promote the formation of scar tissue that will permanently block the opening.—WALTER R. STOKES, M.D., in *Human Fertility,* June, 1941.

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Allergy in Ulcerative Colitis

TWO-THIRDS of the patients with ulcerative colitis can be cured by eliminating foods to which they are allergic. Milk is by far the most common offender; wheat, tomato, potato, orange, and egg were less frequent causes. Skin tests are of no value. An elimination diet of gelatin, rice, rye, peas, and raspberries is given the patient. If the colitis improves, one food is added at a time until an acute flare-up occurs, thus indicating the causative food. If improvement does not follow the diet, one food on the diet list at a time is replaced with another one not on the list (either fruit or vegetable may be used in replacing foods) until relief is obtained.

It must be explained to the patient that *food allergy is not static;* in the future new foods may have to be avoided and he may be able to eat foods to which he is now sensitive.

The removal of infected tonsils cures 20 percent of cases of ulcerative colitis.—A. F. R. ANDRESEN, M.D., in *Am. J. Dig. Dis.,* Mar., 1942.

Poliomyelitis the Year Round

POLIOMYELITIS is commonest in the summer and fall, but it may occur in the winter, according to Drs. A. B. Sabin and R. Ward, writing in *Science* for March 20, 1942, who have found the virus in patients who had no paralysis and in healthy "carriers." The virus is probably transmitted by flies and mosquitoes. Moreover, Dr. D. H. Sprunt (*J. Exp. Med.,* Mar., 1942) has shown that *dehydration,* fatigue, and undernourishment decrease the body's resistance to this disease.

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Intestinal Obstruction

WHEN viewing the patient with intestinal obstruction, remember: (1) The patient with simple (non-strangulating) obstruction has little distress between attacks of colicky pain, as contrasted to the patient with strangulation, who has definite pain between colics; (2) in simple obstruction there is little or no tenderness, while in strangulating obstruction there is far more tenderness and localization of tenderness; (3) 1/6 gr. (10 mg.) of morphine sulphate relieves the peristaltic pain of simple obstruction.

In obstruction accompanied by strangulation, the only treatment is immediate operation. When simple obstruction is present, the disturbances brought about by the distention can be relieved by the passage of an intestinal tube into the stomach and small intestine. Surgery need only be performed after a complete diagnosis, in cases of simple obstruction.—W. OSLER ABBOTT, M.D., in *N.Y.S.J.M.,* Mar. 1, 1942.

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Iron in Cancer

ALL cancer patients show a deficiency of hemoglobin, and so do most, if not all, of those showing symptoms of a precancerous type.

I have treated 5 patients, one of whom had a histologically proved cancer of the uterus, from a bone metastasis of which she died a year later, after several months of freedom from symptoms, while the other 4 showed clinical evidence of cancerous or precancerous lesions, with 5-grain doses of ferrous sulfate 3 times a day, in addition to other indicated remedies. All of them showed definite improvement.

I believe that cancerous tendencies can be checked, and early cases of the disease improved or even, perhaps, cured, by doses of ferrous sulfate sufficient to maintain the hemoglobin percentage at or near normal.

I feel that routine hemoglobin tests should be made on *all* patients, and repeated from time to time, and that all who show a deficiency should be given ferrous sulfate until the percentage is normal. Women in the child-bearing age should probably take it for two weeks out of every month. —JOHN C. ROMMELL, M.D., in *Mississippi Doctor,* Jan., 1941.

[Dr. Rommell probably has *not* discovered a simple cure for cancer, but his suggestions are not unreasonable and the treatment suggested is inexpensive and harmless, so it would seem worth while to try it, *keeping records* and *reporting results,* until its value—or the lack of it—is demonstrated.—ED.]

Diagnostic Pointers

Corneal Ulcer

● Corneal ulceration should be suspected when there is violent eyelid spasm after a direct injury to the eye. *Do not tell the patient to apply cold* and return the next day. Instead, apply cocaine until all pain ceases, and then carefully examine the cornea for a cloudy point. If no such area is seen, apply a drop of 1-percent fluorescein solution and wash it out once with boric acid solution. The fluorescein stains any denuded area yellow-green. *Treatment:* Hot applications and 1-percent atropine solution in eye.—A. K. Foster, M.D., in *Am. J. Surg.*, Aug., 1941.

[Patients over 40 years of age, being liable to glaucoma, should preferably *not* be treated with atropine, which tends to cause an increase in tension.—Ed.]

Functional Disorders

● A diagnosis of "functional" disorder should not be made until these four points have been established:

1. Clinical and laboratory investigations are negative.

2. A definite psychogenic basis is present.

3. The psychogenic factor must bear a definite relation to the patient's symptoms.

4. A psychoneurosis did not begin yesterday. It is the culmination of a trend which may be traced from early life.—S. B. Hall, M.D., in *Clin. Jour.* (Eng.), Mar., 1941.

Aortic Aneurysm

● Sudden, severe thoracic pain, extending into the arms, neck, jaws, and head, then into the abdomen, and finally into the legs, is pathognomonic of dissecting aneurysm of the aorta.—F. A. Willius, M.D., in *Proc. Staff. Meet. Mayo Clin.*, Jan. 15, 1941.

Bone Injuries and Sarcoma

● An injury to a bone may be followed by traumatic periostitis and osteitis, and the tender, bony swelling resulting is readily confused with that of a sarcoma. The roentgen-ray appearance may be insufficient for a diagnosis. It is now generally agreed that *a single trauma never produces a malignant tumor in previously normal tissue.*—Leopold Brahdy, M.D., in "Trauma and Disease." (Lea & Febiger, Publishers.)

Cervical Stricture

● The *sudden* appearance of a copious vaginal discharge is almost pathognomonic of cervical obstruction, either benign or malignant. Cervical stricture is frequently overlooked, unless a uterine probe is passed routinely during all vaginal examinations.—K. H. Martzloff, M.D., in *Am. J. Surg.*, May, 1941.

Common Bile Duct Obstruction

● *Jaundice and vomiting are not pathognomonic symptoms of common bile duct gallstone.* The inflammatory reaction around a stone lodged in the ampulla of the gallbladder or cystic duct may cause edema and narrowing of the common duct. This is of importance to the physician who must make a provisional diagnosis, and to the surgeon who must decide whether or not to explore the common duct. If the cystic duct is quite small, so that stones from the glallbladder could not have passed through it, it is usually unnecessary to open the common duct. —E. C. Cutler, M.D., in *Am. J. Surg.*, Jan., 1941.

Convulsions

● Convulsions should suggest tetany (calcium deficiency) in infants, and lead poisoning in older children. X-Ray or laboratory evidence will confirm or rule out such tentative diagnoses.—G. Parker, M.D., in *Ill. Med. J.*, Feb., 1941.

Palpitation

● To one patient, "palpitation" may mean *rapid* heart action; to another, uncommonly *forceful* action; and to another, *irregular beats.* There are many causes for rapid heart action, but psychic factors are always important when this is of short duration. Brief periods of unduly forceful action are generally functional (due to too much tobacco, coffee, etc.). Irregularity generally means extra systoles, caused by over-irritability of the heart muscle, due to nervous factors, fatigue, and tobacco.—Richard B. Capps, M.D., in *Bul. Chicago Heart Assn.*, July-Dec., 1941.

Stomach Pain

● Changes in the *acidity* of the stomach do not cause pain. This can be proved by drinking hot tea or an alcoholic drink, or by eating ice cream. No sensation is felt once the substance passes the esophagus. Pain is caused by changes in *motility* or tone of the stomach or intestine, which explains the relief obtained by belching.—M. E. Shaw, M.D., in *Brit. Med. J.*, Sept. 21, 1941.

[Hertzler, of Kansas, has long maintained that the pain of peptic ulcer is due to *spasm of the pylorus*, and that it can be readily relieved by a large dose of a sedative, such as from 30 to 45 grains of bromides.—R. L. G.]

Thumbnail Therapeutics

Delivering the Diabetic Mother

• The mortality rate for 65 infants born to diabetic mothers was cut to 18 percent by routinely draining or sucking all secretions from mouth and throat, and placing the infant in a warm, moistened incubator, with 50 percent oxygen concentration, immediately after birth. Most of the mothers were delivered by cesarean section, performed under local or spinal anesthesia, without preliminary medication.—W. R. SISSON, M.D., in *J.A.M.A.*, Dec. 14, 1940.

Sodium Phosphate for Diabetes

• Sodium phosphate, in sublaxative doses (2.5 to 3 Gm. daily), decreases the glycosuria in diabetic patients and increases their strength. After from 8 to 12 days of such treatment, there is a marked increase of sugar tolerance, and a lessening in the amount of insulin needed to control the glycosuria.—B. JOSEPH, M.D., in *N.Y.S. J.M.*, Nov. 15, 1941.

Psoriasis

• Of 22 psoriasis patients, treated with a citrin lemonade containing 300 mg. of eriodictin (vitamin P) and 70 mg. of ascorbic acid (vitamin C) as a daily dose, 19 showed improvement and 3 showed no change.—A. E. GOLDFARB, M.D., in *Arch. Derm. & Syph.*, Mar., 1941.

Pruritus Vulvae

• Pruritus vulvae is symptomatically relieved by the injection of 1-percent quinine and urea solution into the vulvar bed. Prompt relief appears and persists for several days; repeated injections give relief for months. Three or four areas are injected in each labium. No necroses have occurred.—J. E. KING, M.D., in *N.Y.S.J.M.*, Jan. 15, 1942.

Liver Extract in Hypotension

• The chronically complaining patient with hypotension may be improved by the injection of liver extra. Several different liver extracts should be used, as some are not effective in combating the weakness and hypotension.—J. M. HUGHES, M.D., in *Bull. Greenville (S.C.) Co. Med. Soc.*, Nov., 1941.

Thiamin Diabetic Acidosis

• The dietary restriction and dextrose injections occurring during diabetic coma lead to thiamin (vitamin B_1) deficiency. Even after the ketone or acetone bodies disappear from the urine, acidosis may still be present. Large intramuscular injections of thiamin chloride have resulted in dramatic relief of acidosis and a rise in the carbon dioxide combining power of the blood toward normal.—J. R. SCOTT, M.D., in *N.Y.S.J.M.*, Nov. 1, 1941.

Sulfathiazole in Dysentery

• In children with bacillary dysentery, given 1 Gm. of sulfathiazole per year of age, up to 3 Gm., followed by a like amount daily, divided into 6 doses, the stools were reduced to 4 a day, of normal color and consistency, in an average of 3.2 days. In a control group, the time was 15.6 days.—G. TAYLOR, M.D., in *J. Pediat.*, Apr., 1941.

Rotenone for Chiggers

• A 2-percent lotion of rotenone gives relief from the itching of the bites of chiggers and other similar mites, beginning in 30 minutes and complete in 12 hours. The first application should be made as soon as the condition is recognized, and a second 12 hours later.—DRS. WILLIAMS, BAREFOOT, and CALLAWAY, in *So. Med. & Surg.*, Apr., 1941.

Uterine Inertia

• In cases where labor is established, uterine contractions are weak, and there is no obstruction to the passage of the fetus, calcium gluconate, given parenterally, will increase the intensity of the contractions and decrease the intervals between them, but will not increase their duration.—DRS. G. D. PATTON and R. D. MUSSEY, in *A. J. Obst. & Gyn.*, June, 1941.

B Vitamins and Tooth Decay

• Recent experiments have shown that tooth decay occurs in dogs fed a diet deficient in the vitamin B complex, especially the filtrate factor. Lack of nicotinic acid causes or favors the development of pyorrhea and Vincent's infection.—*Science News Letter*, Nov. 29, 1941.

Calcareous Tendonitis

• The injection of from 10 to 25 cc. of a 1-percent procaine solution into the tender area relieves the pain of calcified areas in the tendons near the greater trochanter of the femur, or in the shoulder. After such injection, the calcareous deposits gradually disappear.—LOUIS KAPLAN, M.D., in *Penn. Med. J.*, Oct., 1941.

Prevention of Diabetes

• Diabetes can be prevented by a high-fat diet and by fasting, or the use of insulin in large doses. In children, in whom a well balanced diet is a necessity, the regular use of insulin will prevent overstrain on the pancreatic islet cells.—C. H. BEST, M.D., in *New Eng. J. Med.*, Oct. 17, 1940.

THE DOCTOR'S STUDY

New Books

Any book reviewed in these columns will be procured for our readers if the order, addressed to CLINICAL MEDICINE, Waukegan, Ill., is accompanied by a check for the published price of the book.

With the growth of a library one has an index and reflection of the owner's personality.—BURTON RASCOE.

Sex and Life

Steinach

SEX AND LIFE. Forty Years of Biological and Medical Experiments.—*By* DR. EUGEN STEINACH, Ph.D., M.D. *New York: The Viking Press, Inc. 1940. Price, $3.75.*

FEW, if any, students of sex have pursued their researches with the diligence, sincerity, and scientific exactitude that have characterized the work of Dr. Steinach, and it is fortunate that he has seen fit to place a digest of his 40 years of labor in this field in a form that will make it available to thoughtful laymen.

In this well-made volume he outlines the nature and results of his experiments on animals to determine the source, nature, and manifestations of the sex urge and the influence of the various endocrine glands on sexuality. Next he presents the remarkable effects of transplanting gonads in animals and in human beings, but definitely does not recommend such operations for relief of symptoms of senility, especially since we now have potent sex-hormone preparations, the nature and powers of which he discusses. Several chapters are devoted to the rationale and results of the "Steinach operation" (vasoligation) and the indications for its use.

The style is dignified and clear, and the translation is so smooth and pleasing that it is easy to read and holds the attention.

This is not a "sexy" book nor a manual of erotology, but a thoroughly sane, sound, and authoritative presentation of the studies and conclusions of a great scientist. It should be of real interest to most intelligent and well-informed laymen, and of especial value to those physicians who have not given these subjects any serious study.

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Sex Hormones

Schering

THE SCHERING CLINICAL GUIDES: A three-volume review of modern sex endocrinology. *Medical Research Division, Schering Corporation, Bloomfield, N. J. 1942. Sent free on request, if you mention* CLINICAL MEDICINE.

IN THESE three small (about 50 pages each), handsomely made volumes, bound in stiff boards and inclosed, together, in a slip-case, any physician can find practically all the information he needs regarding the male and female sex hormones—history, physiology, pharmacology, and clinical indications—written clearly and tersely, without any padding or "bunk" and with every statement made backed up by an authoritative reference to the medical literature.

Each volume is complete in itself, with an index and bibliography, and together they cover the whole field. There are several color plates and other illustrations, and about 500 references in the three volumes. Moreover, the Schering people offer to send an abstract or reprint of any article listed to any physician who asks for it, mentioning CLINICAL MEDICINE.

This is about the finest gift you were ever offered by a pharmaceutical house, and we hope our readers will take advantage of this opportunity.

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William Henry Welch

Flexner and Flexner

WILLIAM HENRY WELCH AND THE HEROIC AGE OF AMERICAN MEDICINE. *By* SIMON FLEXNER *and* JAMES THOMAS FLEXNER. *New York: The Viking Press. 1941. Price, $3.75.*

WILLIAM H. ("Popsy") WELCH, the well-loved Dean of American Medicine, was the last survivor of the famous "Four Horsemen" (Osler, Halstead, Kelly, and Welch) who founded and developed Johns Hopkins Medical School, and his story is the story of the emergence of scientific medicine in the United States, in which epochal revolution he was the leading spirit. (A brief biographic sketch of Dr. Welch appeared in CLIN. MED. & SURG. for July 1930, on page 569.)

Few, if any, men are so well equipped for telling this story as the senior author of this fine biography, for Simon Flexner was one of Welch's early students and was closely associated with his teacher through most of his life.

In a clear, straightforward, and always interesting style, the reader is led from the New England village, where Welch was born into a family of doctors, through his early difficulties; his European studies; his return, fired with the ambition to establish scientific medicine in his homeland; and the long and thrilling years during which he brought his dream to full fruition—and incidentally acquired world-wide fame and admiration.

No serious student of the history of medicine can afford to miss this masterly story of the Heroic Age of American Medicine.

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Chemotherapy for Laymen

Taylor

THE CONQUEST OF BACTERIA, from Salvarsan to Sulphapyridine. *By F. SHERWOOD TAYLOR. New York: Alliance Book Corporation. 1942. Price, $2.00.*

THIS is a book for laymen who have read about "miracle drugs" in the newspapers and want to know what it's all about. The history of bacteriology and the mechanism of immunity are briefly sketched and the rest of the volume of about 200 pages deals with the development of chemotherapy, from Salvarsan to sulfapyridine. There is an index.

This is good spare-time reading for any physician or intelligent layman, especially for medical students, dentists, and nurses.